

# NEWS BULLETIN

98  
NGS/News-23  
समाचार  
पत्रिका



## NEPAL GEOLOGICAL SOCIETY

### नेपाल भौगर्भिक समाज

(स्थापना २०३७ साल, सन् १९८०)

---

Volume : 10

February, 1993

Falgun, 2049

---

P. O. Box 231  
KATHMANDU  
NEPAL

# NEPAL GEOLOGICAL SOCIETY

## SEVENTH EXECUTIVE COMMITTEE

1992-94

### *President*

**Amod Mani Dixit**

SILT Consultants (P) Ltd.

P. O. Box 2724,

Battisputali, Kathmandu, Nepal

Phone: 473573, 470866

### *Vice-President*

**Krishna Prasad Kaphle**

Department of Mines & Geology

Kathmandu, Nepal

### *Secretary*

**Ganga Bahadur Tuladhar**

Department of Mines & Geology

Kathmandu, Nepal.

### *Joint-Secretary*

**Dr. Rajendra Bahadur Shrestha**

Petroleum Exploration Promotion Project

Department of Mines & Geology

Kathmandu, Nepal.

### *Treasurer*

**Shardesh Raj Sharma**

Petroleum Exploration Promotion Project

Department of Mines & Geology

Kathmandu, Nepal

### *Members*

**Mrs. Rama Shrestha**

Ground Water Resources

Development Board, Babarmahal

Kathmandu, Nepal

**Ashok Kumar Duwadi**

Department of Mines & Geology

Kathmandu, Nepal

**Samjwol Ratna Bajracharya**

Central Department of Geology

T.U., Kathmandu, Nepal

**Bhola Kishor Dongol**

Nepal Electricity Authority

Kathmandu, Nepal

---

Immediate past President : **Achuta Nanda Bhandari**



## EDITORIAL BOARD

### Editor-in-Chief

Dr. Chandra Kanta Sharma

### Deputy Editor-in-Chief

Nirendra Dhoj Maske

### Managing Editor

Ganga Bahadur Tuladhar

### Editors:

Dr. Bishal Nath Upreti

Devi Bahadur Thapa

Dr. Dibya Ratna Kansakar

Kiran Karki

Tara Prasad Adhikary

Dr. Vishnu Dongol

# CONTENTS

	Page
Editorial	
NGS News	1
नेपाल भौगर्भिक समाजको तेन्ही वार्षिक साधारण सभा	5
- Annual Report by Mr. T.P. Adhikary, outgoing Secretary, NGS	5
- समाजका पूर्व कोषाध्यक्ष प्रयागमान प्रधानद्वारा प्रस्तुत माय व्ययको प्रतिवेदन	11
- Speech Delivered by Dr. R.M. Tuladhar, Chairman of Hydrology Seminar Organising Committee, Nepal Chapter	15
- नव निर्वाचित उपाध्यक्षबाट प्रस्तुत नव निर्वाचित सचिवको मन्तव्य	17
- छलफल	21
Environmental Assessments: Talc Plant and Dead Burnt Magnesite (DBM) Plant Lamosangu - D.K. Pradhan	23
NGS Bi-annual Function	25
NGS - Sub-Committees	27
Seminar on "Geological Hazards and Environmental Problems in Nepal"	31
Abstracts of Technical Papers:	
- Big Earthquakes in Nepal Himalaya: Where ? How often ? - M.R. Pandey	33
- Seismic Hazard Assessment in Preparation for a National Building Code for Nepal - Richard Sharpe	33
- Land Subsidence Problem in Kusma Area, Parbat District, Western Nepal - Umesh Shakya	34
- Causes of Mass Movements on Hill slopes of Nepal Himalaya - Achyuta Koirala	34
- River Pollution of Kathmandu Valley - A.P. Sharma	35
- Natural Hazards and Man Induced Disaster in Nepal Himalaya - C.K. Sharma	35
- Watershed Prioritization Methodology for Watershed Management - B.D. Shrestha	36
- Landslides - An International Environmental Problem - Prof. E. Krauter	36
सेमीनार सम्बन्धमा दैनिक अखबारहरू	37
A Glimpse of Kathmandu Gas Project DMG - R.K. Aryal and B.R. Aryal	39
New Members of NGS during 1992	43
Participation in Seminar/Conference/Workshop	46
Completion of Master/Diploma/Training Programmes	47
Best Wishes	48
Congratulations	49
Retirements	49
Udayapur Cement Industry Ltd. - A Brief Introduction	51
Information on International Seminar on Hydrology	53

*Best Wishes*  
*and*  
*Hearty Felicitations*  
*on*  
*the 43rd Anniversary of*  
*National Democracy Day*

**SALT TRADING CORPORATION LTD.**

Kalimati, Kathmandu, Nepal

Phone : 271208, 271418, 270315

## Editorial

Nepal Geological Society is pleased to bring this issue of News Bulletin on the auspicious occasion of 43rd anniversary of National Democracy Day of Nepal. The Society takes this opportunity to express its deep gratitude to martyrs who sacrificed their lives for the restoration of Democracy in Nepal.

The peoples' democratic movement of 1990 has opened an environment of strengthening and promoting the application of Science and Technology for national development. The Society feels that a stable democratic government is of utmost importance for the radical changes in the beaurocratic and scientific setup for an all round development of the country.

The Society is committed to its objective of developing and promoting the application of geological sciences to national development. In this context, the Society has improved its modus operandi and setup several working groups (sub-committees) for further expanding its professional activities both in national and international levels. It urges its members and well wishers to extend greater cooperation and contribution towards achieving the objectives of the Society.

A traditional Bi-annual Dinner was hosted on September 23, 1992 to honour the newly elected Executive Committee and to bid farewell to the outgoing Executive Committee of the Society. Mr. Laxman Prasad Ghimere, Minister of State for Water Resources graciously presided over the function as the Chief Guest. The Society organised a one day seminar on "Geological Hazards and Environmental Problems in Nepal" on October 14, 1992. Brochure of Nepal Geological Society, highlighting the Society's objectives, activities and publications has been brought out. An international seminar on "Hydrology with a special colloquium on Environmental Problems and Water Resources of Himalayan Region" is being organised by the Society jointly with the Association of Hydrologists of India (AHI) on April 19-21, 1993 in Kathimandu.

During 1992, the Society gained considerable strength in its membership awarding membership to 34 national and international earth scientists and associate membership to 8 national graduates. By December 1992, the Society had awarded membership to 285 earth scientists / engineers and 48 associate memberships to earth science graduate / person involved in mineral based industries. The Society represents a strong scientific community of Geoscientists and Geo-engineers, contributing much towards understanding the natural processes and phenomena in the Himalayas, capable of providing expertise and expert opinion to the government and other agencies for their effective planning and utilization of natural resources, mitigation of natural and man-made hazards as well as helping protect the environment of the country.

The Society extends its best wishes to all its readers for a happy and prosperous 1993.

*Dedicated to the task of nation building  
by providing services in :*

*RURAL INFRASTRUCTURE DEVELOPMENT SERVICES*

*ENGINEERING SERVICES*

*GEOTECHNICS, BIO-ENGINEERING & SOIL CONSERVATION*

*SMALL HYDRO POWER & RURAL ELECTRIFICATION*

*ROPEWAY STUDIES*

*SOCIO ECONOMIC STUDIES*

*ENVIRONMENTAL STUDIES*

*MANAGEMENT CONSULTANCIES*

*With Best Wishes  
on the 43rd Anniversary of  
National Democracy Day*

**ITECO Nepal (P) Ltd.**

P.O. BOX 2147, MEEN BHAWAN, KATHMANDU, NEPAL

TEL : 222888, 221484, FAX : 227 298, TLX : 2728 AHMP NP



# NGS News

1. As per the Constitution of NGS, the then Executive Committee formed on election Sub-committee under the Chairmanship of Mr. Ramesh Kumar Aryal on May 10, 1992 to hold elections of the Seventh Executive Committee, which was to take office from September, 1992. Mr. Upendra Man Singh Pradhan, Mr. Shardesh Raj Sharma, Mr. Kiran Karki, Mr. Madan Ratna Manandhar, Mr. Ichhya Shrestha, Mr. Bhola Kishor Dongol and Mr. Prayag Man Pradhan were members of the sub-committee. However, Mr. Shardesh Raj Sharma withdrew his name from the members of the Elections sub-committee afterwards.
2. Dr. C. K. Sharma, member of the Society has been appointed as the Academician of the Royal Nepal Academy of Science and Technology (RONAST), Kathmandu on August 11, 1992.
3. The Election Sub-Committee held elections on August 21, 1992 for the posts of President and Vice President. The Secretary, Joint Secretary, Treasurer and two executive members were elected unopposed. There were two candidates for each of the contested posts. One hundred and fifty nine members participated in the election. The results of the election were announced at 6:45 P. M. on the same day.
4. The Thirteenth Annual General Body of the Nepal Geological Society met on August 27, 1992 in the auditorium of the Department of Mines and Geology in a cordial atmosphere. The outgoing Secretary and Treasurer of the Society presented their annual reports. On behalf of the Secretary - elect newly elected Vice President outlined the general course of action to be taken by the new Executive Committee. Chairman of the Hydrology Seminar organising Committee Nepal Chapter presented his general report regarding the progress and status of the Seminar Organising Committee. The presentation of the reports were followed by the discussion. Many members expressed their views and opinions and also made suggestions to the new Executive Committee.
5. The Seventh Executive Committee held its first meeting on September 4, 1992. The meeting decided to establish the Society's tradition of observing a Bi-annual function followed by the dinner. The same meeting nominated Mr. Samjwol Ratna Bajrachrya and Mr. Bhola Kishor Dangol as the members of the Executive Committee in accordance with Article 12, sub-article 4 (b) of the constitution of the Society.
6. Nepal Geological Society has established its tradition of observing a Bi-annual function and organising a Bi-annual Dinner on September 23, 1992 at Hotel Himalaya, Kathmandu. Ministry of State for Water Resources, Mr. Laxman Prasad Ghimere graciously presided over the function as the Chief Guest.
7. The fourth meeting of the Executive Committee held on September 25, 1992 decided to observe the International Day for National Disaster Reduction (IDNDR) by organising one day Seminar on Geological Hazards and Environmental Problems in Nepal on October 14, 1992.
8. The fifth meeting of the Executive Committee held on September 29, 1992 has reorganised the Editorial Board as well as Hydrology Seminar Organising Committee, Nepal Chapter and Subdivided in five different working Groups as Advisory Group.

Secretarial Service Group, Technical Group, Fund Raising Group and Logistics Support Group.

9. Mr. A. M. Dixit and Dr. R. P. Bashyal, members of Nepal Geological Society visited Canada to give special lectures on Geology and Geotechnical problems in Nepal Himalaya on September 29, 1992. Dr. Bashyal and Mr. Dixit were visiting Canada and the United States as part of the programme of Seismic Hazard Mapping and Risk Assessment, under the Building Code Development Project being undertaken for UNDP / UNCHS / MHPP.

10. The Nepal Geological Society organised a one day seminar on "Geological Hazards and Environmental Problems in Nepal" on October 14, 1992 to commemorate the International Decade for Natural Disaster Reduction (IDNDR) Day. The Seminar was organised in the Convention Hall of Agricultural Projects Services Centre (APROSC) in Kathmandu.

11. The seventh meeting of the Executive Committee held on November 4, 1992 has reorganised the several Sub-committees as follows :

- Advisory Board
- Financial Sub committee
- Scientific Sub committee
- National / International Relations Development Sub-committee
- Rules and Regulations Sub-committee
- Socio-cultural Sub-committee
- NGS - IDNDR Council

Details of these Sub-committees are described separately in this very issue of the News - Bulletin.

12. Mr. P. L. Shrestha, member of the Society has been appointed the Director General of the Department of Mines and Geology, HMG

Nepal on November 6, 1992.

13. Dr. R. P. Bashyal, member of the Society has been appointed the Project Chief of the Petroleum Exploration Promotion Project, DMG/HMG Nepal on November 6, 1992.

14. Mr. Y. L. Vaidya, member of the Society has been appointed the Director General of the Department of Irrigation, HMG/Nepal on November 6, 1992.

15. Dr. Sandip Shah, member of the Society and Managing Director of Shah Consultancy delivered lecture on "Rock Engineering in Underground Excavation" followed by two case histories of Taiwan and Argentina and some examples of Karnali Chisapani and Kulekhani area (Nepal). This lecture was organised by the Society in the auditorium of DMG on November 13, 1992.

16. Dr. J. Hanisch, member of the Society presented jointly with Dr. W. E. Grabs a paper on Objective and Prevention Methods for Glacier Lake Outburst Floods (GLOF) to the International Symposium on Snow and Glacier Hydrology (ISSGH-92) held in Kathmandu during 16-21 November, 1992. Dr. Hanisch is currently with the Department of Mines and Geology (DMG) and is related with the German Technical Advisory Group from BGR Germany to DMG. Mr. A. M. Dixit, President of the Society was invited to participate in the ISSGH - 92 by its organizers.

17. The first meeting of the newly formed Editorial Board, held on November 22, 1992 has decided to publish the next issue (Volume 9) of the Journal of the Nepal Geological Society by June 1993. Relevant Scientific papers should reach the Managing Editor by March 1993.

18. At the invitation of Dr. K. L. Shrestha, Vice Chancellor of the Royal Nepal Academy of Science and Technology (RONAST), Presidents and Representatives of various



professional, scientific and engineering societies met at RONASt on 25th November 1992. The VC of RONASt informed the meeting of the new RONASt Act of the possible nomination to the Academic Council of RONASt for two persons among the President of the Scientific and Professional societies. The VC also informed the gathering about the proposed RONASt Projects i.e. the formation of the Roaster of Scientists for Public Information (SPI) and the formation of Media Resource Centre. The VC and the Secretary of RONASt, Mr R. Shah requested the participants to suggest about the possible roles RONASt could play for the advancement of Science and Technology in Nepal. Similarly, the Secretary Mr. Shah asked the different Societies to provide the list of membership or directory of the various societies.

Mr. A. M. Dixit, President of NGS briefed the meeting about the current activities of the society, about the tradition of the Nepal Geological Society of observing the International Day of Natural Disaster Reduction (IDNDR) by organising one day seminar on geological environment and hazard reduction. He requested RONASt to facilitate the use of existing geological expertise within the country in the task of national development, specifically he pointed out the need for proper representation of the Nepal Geological Society, Department of Mines and Geology and the academic field in the National Committees of International Decade for Natural Disaster Reduction and other national committees/councils on environment. Mr. Dixit also informed the meeting about the proposed International Seminar on Hydrology with a special colloquium on the Environmental Problems of Himalayas to be organised by Nepal Geological Society (NGS) jointly with the Association of Hydrologists of India (AHI)

on April 19-21, 1993 in Kathmandu.

19. A wrap-up meeting with Prof. V. V. J. Sarma, Secretary / Treasurer of Association of Hydrologists of INDIA (AHI) were organised by Seminar Organising Committee, Nepal Chapter, during December 15-18, 1992 regarding the International Seminar on Hydrology with Special Colloquium on Environmental Problems and Water Resources of the Himalayan Region to be organised by NGS jointly with the AHI on April-19-21, 1993 in Kathmandu. First day of the meeting was devoted largely on briefing of the developments at both ends i.e. NGS and AHI regarding the above said Seminar. Second and Third day were focussed on Seminar programme, venue, excursion, publication and other relevant matters; a thorough discussions were held before arriving at any conclusions.
20. The twelfth meeting of the Executive Committee of the Society held on January 15, 1993 has nominated the following National and International Regional Representatives of the NGS.

#### Foreign Regional Representatives :

- |                       |           |
|-----------------------|-----------|
| 1. Dr. Patrick LeFort | Europe    |
| 2. Dr. David Scott    | America   |
| 3. Dr. Harutaka Sakai | Japan     |
| 4. Dr. John A. Talent | Australia |

#### National Regional Representatives :

1. Dr. Purushottam Prasad Adhikary - Eastern Region, Biratnagar
2. Moti Bahadur Kunwor - Central Region, Birgunj
3. Jitendra Ghimire - Western Region, Bhairahawa
4. Ramesh Chandra Gautam - Midwestern Region, Dang
5. Pratap Singh Tater - Farwestern Region, Dhangarhi
21. The Nepal Geological Society has published

its brochure No. 2 in January, 1993 with a view to disseminate information on the objectives and professional activities of the

Society. The Brochure is being distributed free of cost.

*Best Wishes*  
*and*  
*Hearty Felicitations*  
*on the*  
*Auspicious Occasion*  
*of*

**43rd National Democracy Day**

**HETAUDA CEMENT INDUSTRIES LTD.**  
**HETAUDA, NEPAL**

***Use Hetauda Cement***  
***For Quality & Strength***

# नेपाल भौगर्भिक समाजको तेह्रौँ वार्षिक साधारण सभा

नेपाल भौगर्भिक समाजको अगष्ट २७, १९९२ मा आयोजना गरिएको तेह्रौँ वार्षिक साधारण सभामा पूर्व सचिव श्री तारा प्रसाद अधिकारी र पूर्व कोषाध्यक्ष श्री प्रयाग मान प्रधानले प्रस्तुत गर्नु भएको प्रतिवेदनहरू तथा हाइड्रोलोजी सेमिनार अर्गनाइजिङ कमिटी, नेपाल च्याप्टरका सभापति डा. श्री रमेशमान तुलाधरद्वारा प्रस्तुत प्रतिवेदनको साथै नवनिर्वाचित उपाध्यक्ष श्री कृष्ण प्रसाद काफ्लेद्वारा प्रस्तुत नवनिर्वाचित सचिव श्री गंगा बहादुर तुलाधरको मन्तव्य र तत्पश्चात् सभामा भएको खेलफल तल प्रस्तुत गरिएका छन् ।

## Annual Report by Mr. T. P. Adhikary, Outgoing Secretary, NGS

### Chairman, Members of the Society

On behalf of the Executive Committee I welcome you all in the thirteenth Annual General Body Meeting of the Nepal Geological Society. First of all, allow me to congratulate the recently elected members of the seventh executive committee and wish them success in the task of further strengthening the Society. I also congratulate all the new members of the Society and request them to come forward to work together. Dear members, it is a matter of great pride for us that Dr. C. K. Sharma, the life member of the society has been nominated a member of RONA by His Majesty's Government. We take his nomination as a recognition of his long and tireless efforts to the cause of the development of the Geology of the Nepal Himalayas. We take this nomination as a recognition of the ever growing importance of the Geology in all round development of the country, be it in the sphere of mineral exploration, be it in the field of the ground water

investigations, be it in environmental protection and so on and so forth. Let us congratulate him on this important appointment and wish him further success.

The tenure of the sixth executive committee is going to be completed in a few days and the newly elected office bearers of the Society will take office from September 1, 1992. You all are aware that during the last general body meeting held on Sept 6, 1991 I presented the report on the professional activities of the Society, carried out in the first year of our office. It is a pleasure for me to present now the report on the professional activities of the Society conducted during the second year.

1. Dear friends, the president of the Society Mr. A. N. Bhandary participated in the general Body Meeting of Nepal Botanical Society on Sept. 30, 1991 in the beginning of the second year of our office.
2. In response to the call made by the United Nations to celebrate every year the second



Wednesday of October as "International Decade For Natural Disaster Reduction Day", the Nepal Geological Society celebrated this day on October 7, 1991 by successfully organising a Seminar cum Workshop on "Geologic Hazards, Environment & Man Made Structures". Mr. Amod Mani Dikshit, Mr. Nirendra Dhoj Maskey, Mr. Madhav Raj Pandey, Mr. Surya Bhakta Upadhyaya, Dr. Toran Sharma and Dr. Megh Raj Dhital presented the papers. I thank them all for their contribution in making the seminar cum workshop a success by preparing the papers at short notice.

I take this opportunity to thank once again EAST Consult P. Ltd., GEOCE Consultants P. Ltd., ITECO Nepal P. Ltd., Multi Disciplinary Consultants P. Ltd., SILT Consultants P. Ltd. and Shuva Simha Consult P. Ltd., the sponsors of the seminar cum workshop, as well as the Social Services National Co-ordination Council (SSNCC) for providing the Meeting Hall free of charge in order to organise the Seminar. I also thank the chairmen of the sessions Dr. M. R. Sharma and Dr. R. P. Bashyal; rapporteurs Mr. K. P. Kafle, Mr. J. N. Shrestha, Dr. D. R. Kansakar, Dr. V. Dongol and Mr. U. Shakya; as well as conveners Mr. R. K. Aryal and Dr. Pitamber Gautam. I also thank all the members of the society who actively cooperated and participated in the seminar.

3. On Nov. 26, 1991 the Society sent suggestions to the High Level Administration Commission following discussions with the several members of the Society in response to the request made by the Commission.

4. Dear members, we have, as you know, already decided to bring out regular and timely publications. In this context, the News Bulletin is to come out in February and the Journal in June each year. It demands submission of relevant materials of the News Bulletin and the Journal to the Managing Editor by Mid January and end of February respectively of the same year. But

unfortunately, it has still not been possible to put it into practice.

The February, 1992 issue of the News Bulletin, Volume 9 has been published and is already being distributed among several members, consulting firms, mineral based industries etc. There are, however, some proof reading mistakes in the Bulletin and I apologise for the inconvenience caused to our readers due to those mistakes.

This issue of the News Bulletin carries 16 advertisements exceeding the last year record of 13 advertisements. I would like to thank the members Mr. A.M. Dikshit, Mr. Govind Sharma, Mr. J.N. Shrestha, Mr. K.D. Bhattarai, Mr. K.P. Kafle, Mr. K. M. Amatya, Mr. Lokendra Raj K.C., Mr. Narayan Singh, Mr. R.B. Bajracharya and Mr. V.B. Shrestha for their cooperation in getting the advertisements.

5. The Journal of the Nepal Geological Society vol. 8 is in the process of publication and it will take some time before it will be printed. The lack of scientific papers, their unavailability in time and the time required for editing the papers are the main causes to delay the publication of this issue as well. The regularisation and timely publication demand active cooperation from the part of the members as well. Hence, I request all the members of the Society to contribute to timely publication by submitting research papers to the managing editor in time.

6. This year we have been able to organise four scientific lectures. First of all, on October 6, 1991 Prof. Dr. Robert S. Yeats of Oregon State University, USA delivered a lecture on Seismic Hazard along the Frontal Himalayan Belt. The second speaker Prof. Dr. Edmund Krauter of University of Mainz, Germany spoke on European Experiences in Engineering Geology and their applicability in Nepal on Dec. 4, 1991. The third topic of the lecture programme was "

Structures of Siwaliks in Western Nepal " which was delivered on April 3, 1992 by Prof. Jean - Louis Mugnier. On the same day Mr. Jeseec Mcnellis spoke in " Ground water in the Terai".

I thank all the speakers as well as the scientific Sub-committee for organising the lecture programmes. I also request all the members of the Society to come forward to help to organise the lecture programmes at least once in a month in order to exchange opinions frequently.

7. Dear members, the seminar on Hydrology with special emphasis on Environmental Problems & Water Resources of Himalayan Region to be organised jointly by the Nepal Geological Society and the Association of the Hydrologists of India has been postponed from Nov., 1992 to April 19-21, 1993 following the funding problem and the time required to raise the funds. The joint meeting of the executive and the Scientific sub- Committee held on Feb 5., 1992 has formed a 27 member Seminar Organising Committee - Nepal chapter in the chairmanship of Dr. Ramesh Man Tuladhar.

The Committee has been divided into four working groups : Secretarial Services Group, Technical Group, Fund Raising Group and Logistic Support Group. The 70 scientific papers have already been received. The Fund Raising Group of the organising Committee has been making contact with the International Consulting firms / contractors, International Organisations in order to seek donation to organise the Seminar. Dr. Ramesh Man Tuladhar, Vice-President of the Society will speak more about this.

8. As you know already that on June 8, 1992 the President and the Secretary of the Society met with the European Regional Representative of NGS Dr. Patrick Le Fort in Kathmandu and discussed about the possibility of organising a joint seminar in Kathmandu. Following the meeting Dr. Patrick Le Fort put forward a proposal in Himalaya - Karakorum Tibet

workshop held in Oxford, UK in spring 1992 that the 1994 workshop be organised in Kathmandu. This proposal was accepted unanimously in that meeting. The society thanks Dr. Le Fort for his cooperation to the Society.

Dr. M. R. Dhital and Dr. P. Gautam, members of the Scientific Sub - Committee will see Dr. Le Fort in the Geological Congress in Japan and work out the details for the organisation of the Seminar. Thus the new executive committee faces the challenges to organise one seminar and one workshop, which demand full support and active cooperation from all the members.

9. On March 15, 1992 following the request to the Society by Mr. R.B. Basnet, President of Bhutan National Democratic Party, the 28 members of the Society donated Rs. 1,650 as a token of support to the Bhutanese Refugees of Nepalese origin.

10. On March 29, 1992 about 40 members of the Society participated in the lecture programme organised by RONAST in RONAST Meeting Hall. The speaker Prof. Dr. Roland Pape spoke on Global Environmental Changes.

11. Following the request made by some members of the Society living abroad, an Election Sub- Committee was formed in the chairmanship of Mr. R. K. Aryal on May 10, 1992 more than three months in advance so as to provide an ample time to cast vote to each and every member living in any part of the world. Altogether 160 votes were cast, out of which 20 were received from abroad. On behalf of the executive Committee and all the members of the Society I thank the chairman and the members of the election sub-committee for holding the election successfully. I also thank all the members of the Society, who participated in the election.

12. The financial situation of the Society is not very charming but satisfactory. We have already collected the advertisement fee of Rs. 10,700

from 15 organisations out of 16. Rs. 900 from one organisation is to be received soon. We have, however, not received any financial help from RONAST last fiscal year following no provision for financial assistance to NGOs. However, the concerned section of the RONAST has informed that there will be assistance to NGOs in the coming fiscal year. The details of the financial situation will be presented by acting Treasurer of the Society Mr. P. M. Pradhan.

13. Mr A. N. Bhandary visited Jogimara Landslide on request of Environmental Journalists' Group on August 7, 1992 in connection with the tragic bus accident, caused by the rock slide

14. Dear colleagues, The Society has gained considerable strength in its membership. During the last two years 34 geoscientists and engineers have been awarded Life-membership, 10 - ordinary membership. During this period 18 ordinary members also renewed to life - members during these two years of our office. Thus the total registered members of the Society to date is 275.

The total registered life members	: 219
Total registered ordinary members	: 56
No. of life members expired	: 2
No. of members expired	: 1
Membership not renewed	: 32
Hence, total no. of active members	: 240
Out of which,	
Life members	: 217
Ordinary members	: 23

Countrywise distribution of life membership stands as follows :

Nepal	: 131
USA	: 26
Japan	: 19
Germany	: 11
France	: 9
UK	: 5
Canada	: 3

India	: 3
Australia	: 2
Italy	: 2
New Zealand	: 2

The distribution of ordinary members stand as follows :

Membership renewed (Nepal)	: 13
New members (Nepal)	: 9
New member (USA)	: 1

Therefore,

Total active members form Nepal	: 153
From abroad	: 87

15. Lastly, I would like to inform you that during the last two years, the executive committee held 16 meetings in which about 24 major decisions were made, of which two - third have been carried out successfully.

The decisions, which were implemented, are :

- to send greetings to members and well wishers on the occasion of Dasain Festival and International New Year
- to publish brochure in order to publicize the Society
- to invite any member of the Society in the Executive Committee Meeting as an observer
- to nominate the foreign regional representatives of the Society
- to notify the major activity of the Society in the Newspaper
- to use stock book, ledger book, cash book etc. for book keeping
- to fix the date of publications of the Bulletin and the Journal
- to try to have representation of the Society in IGCP National Committee & RONAST
- to try officially for acquisition of land for the Society



- j. to reach an agreement with other scientific organisations for holding seminars & workshops
- k. to organise a Seminar cum Workshop
- l. to appoint co-ordinator of the sub-committee to any member other than from Executive Committee
- m. to raise the fee for the advertisement in the News Bulletin
- n. to form a Seminar Organising Committee, Nepal Chapter
- o. to form an election sub-committee three months in advance of the election day.
- d. to translate the Society's constitution into English and to formulate rules and regulations in accordance with the constitution
- e. to bring out the publications in time
- f. to establish the contact points of the Society in SAARC countries
- g. to raise funds for the seminar

Hence, I would like to request all the members of the Society to cooperate wholeheartedly the newly elected executive committee in fulfilling the Society's tasks and objectives.

The decisions yet to be implemented are:

- a. to exchange publications with similar organisations in different parts of the world.
  - b. to hire a space for the library or office of the Society
  - c. to publish a Directory of the Society members
16. In the end, I would like to thank all the members of the society on behalf of the Executive Committee and myself for their cooperation in running the Society. Thanks are due to the Department of Mines and Geology, Petroleum Exploration Promotion Project for providing space and equipment facilities in order to carry out the professional activities of the Society.

Thank you

**YOU NAME IT - WE DO IT**

**DRILLING FOR -**

DEEP WATER WELLS

SHALLOW WATER WELLS

NATURAL GAS WELLS

PILING WORKS

BOULDERS OR SOFT SOIL - EQUALLY EASY FOR US

***Best Wishes and Hearty  
Felicitations  
on  
the 43rd Anniversary  
of  
National Democracy Day***

**NADCO**

**NATIONAL DRILLING COMPANY (P) LTD.**

NAYA BANESHWOR

P. O. BOX. 2874, KATHMANDU

TEL : 223580, 224760, FAX : 977-1226088

# नेपाल भौगर्भिक समाजका पूर्व कोषाध्यक्ष श्री प्रयागमान प्रधानद्वारा प्रस्तुत आय-व्ययको प्रतिवेदन

श्री मान अध्यक्षज्यू तथा उपस्थित साथीहरू, सर्वप्रथम नेपाल भौगर्भिक समाजको तेही वार्षिक सभामा कोषाध्यक्षको हैसियतले दुई शब्द बोल्न मौका दिनु भएकोमा सम्पूर्ण साथीहरूलाई धन्यवाद व्यक्त गर्दछु। श्री ध्रुव अधिकर्मीजीको अनुपस्थितिमा यस कोषाध्यक्षको कार्य सम्हाल्दै आए अनुसारको यो आय व्यय पेश गर्दछु।

यस नेपाल भौगर्भिक समाजको आय व्ययमा श्री ध्रुव अधिकर्मीजी रहनुजेलसम्म यही २६ भाद्र २०४७ देखि १६ ज्येष्ठ २०४९ सम्मको हिसाब Auditing भैसकेको छ जुन Audit chart form यसै साथमा छ। त्यसपछि May 31<sup>st</sup> 1992 सम्मको आय व्ययको हिसाब निम्नबमोजिम भएको जानकारी गर्दछु।

RECEIPT	AMOUNT	PAYMENT	AMOUNT
<u>To Life Member Fee</u>			
New LM	Rs. 6,695.00	Stationary	Rs. 616.00
Member to Life Member	Rs. 9,900.00	Advertisement	Rs. 1,152.00
Foreign LM	Rs. 1,730.00	District Administration	Rs. 25.00
		P. O. Box	Rs. 426.00
<u>To Membership Fee</u>		Personal Cooperation	Rs. 410.00
New Member	Rs. 520.00	By Refreshment and Hospitality	Rs. 2,518.00
Re-new Members	Rs. 1,200.00	By Postage	Rs. 1,067.90
Advertisement	Rs. 10,700.00	By Typing	Rs. 200.00
Vest Sale	Rs. 150.00	Journal (abroad)	Rs. 576.00
Journal Sale	Rs. 750.00	Auditor	Rs. 1,000.00
Total	Rs. 31,645.00	Total	Rs. 7,990.90
		<u>By Cash and Bank Balance</u>	
		Nabil (Saving)	78,467.49
		Nabil (Fixed)	29,000.00
		ADB (Saving)	5,956.52
		ADB (Fixed)	37,000.00
		NBL (Current)	9,949.68
		NBL (Saving)	4,218.78
		Cash in Hand	11,507.50



## **Systematic Accounting & Auditing Services**

(Registered Auditor and Consultant)

G.P.O. Box 4030

Kathmandu

Date: 2049-05-03

**The members  
Nepal Geological Society,  
Kathmandu.**

Gentlemen,

I have audited the attached receipt and Payment Account for the year 26th Bhadra 2047 to 16th Jestha 2049 and reports as follows:

1. I have got all the information and explanation which are required for the purpose of Audit.
2. Books as required are maintained according to company laws.
3. The attached Receipt & Payment a/c and Income & Expenditure a/c is drawn properly up in accordance with available records which are made available to me.
4. According to the information given to me the attached Income and Expenditure a/c prepared for the year 26th Bhadra 2047 to 16th Jestha 2049 exhibit true and fair view.

Sd/

.....  
Regd. Auditor,

# NEPAL GEOLOGICAL SOCIETY

## RECIEPT & PAYMENT ACCOUNT FOR THE YEAR

26TH BHADRA 2047 TO 16TH JESTHA 2048

RECEIPT	AMOUNT	PAYMENT	AMOUNT
To, Cash & Bank Balance	153,920.63	By, Advertisement & Stationary	9,448.55
To, Advertisement Receipt	6,250.00	By, Printing of Journal	39,797.00
To, Financial Aid (RONAST)	9,000.00	By, Typing	349.00
To, Interest on Deposit	21,667.00	By, Postal & Telegram	3,631.25
To, Life Membership Fees	11,830.00	By, Renewal of Firm	225.00
To, New Ord. Member Fees	65.00	By, Refreshment & Hospitality	5,922.50
To, Associated Member Fees	280.00	By, Salary & Remuneration	920.00
To, Renewal of Membership	150.00	By, Taxi & Fuel	389.00
To, Renewal of Associated Mem.	760.00	By, Tax on Interest	703.44
To, Sale of Journal	17,473.45	By, Misc. Expenses	255.65
To, Receipt on Seminar cum Work Shop	7,000.00	By, Advance to:	
		Mr. S. R. Sharma	765.00
		Mr. R. M. Tuladhar	500.00
		By, Balance :	
		Cash in Hand	11,425.00
		Nabil Fixed	29,000.00
		Nabil Saving	69,474.25
		NBL Saving	4,040.78
		NBL Current	9,949.68
		ADB Fixed	37,000.00
		ADB Saving	4,599.86
Total	228,396.16	Total	228,396.16

Per attached report

Sd/.....  
Treasurer

Sd/.....  
Secretary

Sd/.....  
President

Sd/.....  
Auditor

# NEPAL GEOLOGICAL SOCIETY

INCOME & EXPENDITURE ACCOUNT  
FOR THE YEAR: 26<sup>TH</sup> BHADRA 2047 TO 16<sup>TH</sup> JESTHA 2048

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To, Advertisement & Stationary	9,448.55	By, Advertisement Receipt	6,250.00
To, Printing of Journal	39,797.00	By, Financial Aid (RONAST)	9,000.00
To, Typing	349.00	By, Interest on Deposit	21,667.08
To, Postage & Telegram	3,631.25	By, Life Member Fees	11,830.00
To, Renewal of Firm	225.00	By, New Ordinary Member Fees	65.00
To, Advance expenses	1,265.00	By, Associated Member Fees	280.00
To, Refreshment & hospitality	5,922.50	By, Renewal of Membership	150.00
To, Salary & Remuneration	920.00	Add Outstanding	11,350.00 11,500.00
To, Taxi & Fuel	389.00	By, Renewal of Associated	760.00
To, Misc. Expenses	255.65	Add Outstanding	1,000.00
To, Tax on Interest	703.44		1,760.00
To, Surplus (excess of income over exp.)	25,084.14	Less Advance Recieved	160.00 1,600.00
		By, Sale of Journal	17,473.45
		Outstanding	1,325.00 18,793.45
		By, Receipt on Seminar	7,000.00
Total	87,990.53	Total	87,990.53

.....Sd/.....  
Treasurer

.....Sd/.....  
Secretary

.....Sd/.....  
President

.....Sd/.....  
Auditor

# Speech Delivered by Dr. R. M. Tuladhar, Chairman, Hydrology Seminar Organising Committee - Nepal Chapter

Dear respected NGS members,

It is my pleasure to greet you all in this 13th Annual General Body Meeting of our Nepal Geological Society. As my colleague Mr. T. P. Adhikari, Secretary of NGS has already mentioned, I will be presenting here the actual state of "Seminar on Hydrology with special Colloquium on Environmental Problems and Water Resources of the Himalayan Region" to be organized jointly by the Association of Hydrologists of India (AHI) and NGS. Before going into details, I would like to give a brief background on how the idea of conducting this seminar by NGS jointly with AHI was condensed.

## Background

On October 17, 1990 Prof. V. V. J. Sarma, Secretary of Association of Hydrologists of India (AHI) wrote a letter which was addressed to Director of Groundwater Department, HMG/N showing a great deal of interest in organizing a joint international seminar and/or a training course. This letter was hand delivered to me by Dr. G. Krishna Rao, then Colombo Plan Expert in Central Department of Geology, T. U. Thereby, I brought-up this matter to HMG's authorised personnels and discussed about different possibilities but in vain. Finally then, I brought-up this matter to NGS which was welcomed by the Executive Committee.

## Follow-up

1) On December 27, 1990 on behalf of Scientific Sub-committee of NGS, I wrote a letter to Prof. V. V. J. Sarma indicating a fair possibility of NGS collaboration with AHI

but before any decision could be made it is essential to have mutual discussions.

- 2) On June 12, 1991 an invitation was sent to Prof. Sarma to have a meeting on above matter as well as to join the seminar to be organized by Central Department of Geology, T. U.
- 3) Prof. Sarma accepted the invitation and came to Kathmandu on July 2, 1991 to attend both the seminar as well as the proposed meeting. A series of meetings between Prof. V.V.J. Sarma, Secretary of AHI and Mr. A. N. Bhandary, and Mr. T. P. Adhikari President and Secretary NGS resulted in a 12 points agreement between AHI and NGS to organize an International seminar at Kathmandu from November 10 - 12, 1992.
- 4) First Circular of the seminar was issued and distributed during October/November through AHI and NGS in Europe, North America, Japan, SAARC countries, Africa and so on. This circular, I am sure, was distributed among all NGS members too. I, therefore, consider you all know the contents and not necessary to repeat here.
- 5) We could not get any information on the development on AHI side for quite a long time and on February 4, 1992 a letter was sent to Prof. Sarma asking about their progress regarding the seminar. On February 14, 1992 he was contacted in telephone asking the same.
- 6) Meanwhile there have been painstaking effort by our colleagues to raise fund for holding this seminar but without very much success. Main



donor agency approached was USAID, Kathmandu / Nepal who initially talked very much favorably and even indicated that fund might not be a problem when if formalities are fulfilled. We are still hopeful. However, ICIMOD has agreed in principal to provide partial funding in bringing out seminar's proceedings.

- 7) In view of expediting the work, Executive Committee jointly with scientific sub-committee formed a special 27-members Seminar Organizing Committee, Nepal Chapter. The Chairman and Vice-Chairman of this special Committee are nominated as Dr. Ramesh M. Tuladhar and Mr. Ramesh K. Aryal respectively. Other group coordinators are:

- i) Fund Raising Group, Co-ordinator Mr. S. B. Ranjitar
- ii) Technical Group, Co-ordinator Dr. M. R. Dhital
- iii) Logistic Support Group, Co-ordinator Mr. Sailendra B. Shrestha
- iv) Secretarial Service Group, Co-ordinator Mr. Ramesh Tuladhar

- 8) Since there were no positive response from any donor agency in providing funds for holding this seminar at both the ends until March 31, 1992 i. e. the last date of abstract submission, AHI and NGS decided to postpone the seminar by about 5 months. The new date of seminar is April 19 - 21, 1993.

- 9) Dear members! As you all are aware of, there

are two main constraints in holding this seminar, they are i) Technical paper and ii) Fund. If one of these two is not fulfilled the seminar cannot take place. We are free from the first constraint having numerous abstracts already received by AHI. But unfortunately we have not been able to find any sponsor as yet.

- 10) Recently the Fund Raising Group of the Seminar Organizing Committee has approached several national and international agencies. The results are still awaited.

- 11) On August 18, 1992 Prof. Sarma was contacted on telephone and the latest development from AHI is :

- i) There are 70 abstracts received to - date.
- ii) No donor agency so far agreed to sponsor the seminar.
- iii) AHI promised to provide \$ 1000.00 for the publication of the proceedings.
- iv) 2nd Circular is out and 500 copies already dispatched for NGS.

- 12) Dear members! These are all about the actual state of the Seminar on Hydrology with special colloquium on Environmental Problems and Water Resources in the Himalayan Region to the best of my knowledge.

- 13) Lastly, I would like to appeal to all members to come forward to help us the way you can, in making this seminar a success.

# नवनिर्वाचित उपाध्यक्षबाट प्रस्तुत नवनिर्वाचित सचिवको मन्तव्य

श्री सभापति महोदय तथा सदस्य साथीहरू,

सर्व प्रथम यस प्रतिष्ठित नेपाल भौगर्भिक समाजको कार्यकारिणी समितिमा हामीलाई निर्वाचित गरि आठवौं दुईवर्षको कार्यकालको लागि यस समाजको विधान अन्तरगत रहि सदस्य साथीहरूको आकांक्षा एवं सुझावहरूलाई हृदयंगम गरि समाजको उद्देश्य अनुरूप समाजलाई अगाडि बढाउने अभिभारा दिनु भएकोमा सम्पूर्ण सदस्य साथीहरूलाई नवनिर्वाचित कार्यकारिणी समितिको तर्फबाट म हार्दिक धन्यवाद ज्ञापन गर्दछु ।

तेह्र वर्ष लामो अनुभव बोकेको यस समाजले यसको स्थापनाकाल देखि नै आफ्नो मूलभूत उद्देश्य अनुरूप भूगर्भविज्ञानको विकास एवं सम्बर्द्धन गरि राष्ट्रिय विकासको लागि विभिन्न क्षेत्रहरूमा समाजले कार्यान्वयन गरेको विभिन्न वैज्ञानिक क्रियाकलापहरू द्वारा सन्दी योगदान पु-याउँदै आइरहेको छ । गत २५ अगस्त १९८९ मा काठमाण्डुमा आयोजना गरिएको Seminar on "Geology of Nepal Himalayas" र ७ अक्टोबर १९९१ मा IDNDR Day मनाउन आयोजना गरिएको Seminar cum workshop on "Geologic Hazards, Environment and Man-made Structures" ले यस्ता कार्यहरूमा अझ बढी अगुसर रहि समाजको गरिमालाई उच्चस्तरमा पु-याउन यस नव निर्वाचित कार्यकारिणी समिति दुवै संकल्पित छ र यसमा हाम्रो सम्पूर्ण सदस्य साथीहरबाट सक्रिय सहयोग प्राप्त हुने नै छ भन्ने हाम्रो विश्वास छ ।

समष्टि रुपमा हेर्दा हाम्रो यस समाज विभिन्न सकारात्मक क्रिया कलापहरूमा अग्रसर हुँदै आएको भएतापनि वित्तका वर्षहरूको अनुभव र सदस्य महानुभावहरूबाट समय समयमा उठाइएका कतिपय निम्न कुराहरू अझै समाधान हुन सकेका छैनन् र

यिनै हाम्रा चुनौतिक विषय बन्न पुगेका छन् ।

समाजको लागि घर जग्गा उपलब्ध गराउने प्रयास हुनुपर्ने भन्ने सम्बन्धमा औपचारिक प्रयास सुरु भएता पनि अहिले सम्म यस सम्बन्धमा ठोस कारवाहि अगाडि बढ्न सकेको छैन ।

विधान अनुरूप अन्य नियम, विनियम बनाउन पर्ने भन्ने कुराहरू विभिन्न बैठकमा उठेका भएतापनि अहिले सम्म सो बारे केहि हुन नसकेको र यी नियम विनियम बिना हाल आएर खास गरि सदस्यता प्रदान गर्ने सिलसिलामा र चुनाव प्रक्रियामा अप्ठेरोपन भ्रजना भएको देखिन्छ ।

समाजका सदस्यहरू मध्ये श्री ५ को सरकारको निजामति सेवा अन्तरगत इन्जिनियरिङ्ग सेवा, जियोलजि समूहमा रहेका सदस्यहरूको पेशागत विकासको लागि यस सेवा तथा समूहमा उपसमूह गठन हुनु पर्ने भनि दुइवटा उपसमितिले प्रतिवेदन दिए पश्चात गत वर्ष यस समाजले उच्चस्तरीय प्रशासन सुधार आयोगलाई उक्त आयोगको अनुरोधमा १५ सुत्रीय सुझावहरू पठाएको तर हाल सम्म यस सम्बन्धमा विशेष कारवाहि हुन नसकेको पाइएको छ ।

RONAST मा जस्तै IGCP - National Committee, IDNDR - National Committee, वातावरण मन्त्रालय र अन्य कतिपय खनिजमा आधारित उद्योगहरूमा भूगर्भविद्हरूको उचित प्रतिनिधित्व हुनु पर्ने कुरामा सम्बन्धित निकायहरूमा औपचारिक कुराकानि भएको भएतापनि अझ सम्म पनि त्यतिको प्रभावकारी हुन नसकेको देखिएको छ ।

समाजको आफ्नै छुट्टै कार्यालय बहालमा लिएर भएपनि चलाउने भन्ने बारे हालसम्म सो कार्य पुरा हुन सकेको छैन । यसमा केहि आर्थिक बाध्यता पनि

छ भन्ने कुरो हामी सबैले महसुस गरेकै कुरा हो ।

नेपाल भौगर्भिक समाजको Directory प्रकाशन गर्ने प्रयास भइरहेको भन्ने जानकारीमा यस समाजका पूर्व सचिवज्यू बाट प्राप्त हुन आएको तर पुरा हुन नसकेको ।

SAARC Countries हरूमा समाजको representative (प्रतिनिधि) बनाउने प्रयास भइरहेको तर औपचारिक कारवाहि भने अझै नभइ सकेको ।

विधान अनुरूप सम्मानित सदस्यता प्रदान गर्ने बारे विचार गरेको तर हाल सम्म कार्य कारिणि समितिले निर्णयको लागि साधारण सभामा यस्तो प्रस्ताव पेश नगरेको ।

जर्नल तथा न्यूज बुलेटिनहरुको प्रकाशन वार्षिक रुपमा भइ रहेको भएता पनि अझ स्तरीय बनाउँदै यसको Distribution (वितरण) र exchange (आदान प्रदान) को लागि स्वदेश तथा विदेशमा औपचारिक पत्राचार गरि बढी प्रभावकारी बनाउन पर्ने देखिन्छ ।

उक्त सन्दर्भमा अहिले सम्म समाजले गर्दै आएका कामहरु अझ प्रभावकारी रुपमा सम्पन्न गर्नका साथै माथि उल्लेखित कतिपय अपूरा कामहरुलाई पुरागर्न र सदस्यसाथीहरुको सोचाइ अनुरूप समाजका क्रियाकलापहरुलाई गतिशिलता प्रदान गर्न लिइएका सामुहिक निर्णय र व्यक्तिगत जिम्मेवारी को भावना अनुरूप काम गर्दै जान सम्पूर्ण सदस्य साथीहरुको सक्रिय सहयोग प्राप्त गर्ने हेतुले विभिन्न उप-समितिरूको गठन गरि समाजको क्रियाकलापहरुलाई अझ बढी प्रभावकारी बनाउन र समाजको छवि विदेशी मूलकहरुमा समेत पु-याउन यो नव निर्वाचित कार्यकारिणि समिति दत्तचित्त रहने कुरा सदस्य साथीहरुमा जानकारी गराउँदछौ ।

भर्खै मात्र समाजका पूर्व उपाध्यक्षज्यूबाट प्रस्तुत प्रतिवेदन बाट ज्ञात हुन आए अनुसार यस नेपाल भौगर्भिक समाज र ASSOCIATION OF HYDROLOGIST OF INDIA को संयुक्त तत्वाधानमा यहि आउँदो सन् १९९३ को अप्रिल

१९-२१ मा "Seminar on Hydrology with a Special colloquium on Environmental Problems and Water Resources of Himalayan Region" बारे अन्तराष्ट्रिय सेमिनार नेपालमा आयोजना गर्नको लागि दुवै संस्था विच गत १० जुलाई १९९१ मा सहमति भएको र उक्त सेमिनार सम्पन्न गराउन Seminar Organising Committee, Nepal Chapter गठन भइ कार्यक्रम अगाडि बढ्दै छ । यसै गरि निकट भविष्यमा सन् १९९४ को मार्च-अप्रिल महिनातिर Seminar Cum Workshop on "Himalaya-Karakorum and Tibet" बारे काठमाण्डौमा आयोजना गरिने Seminar सफलतापूर्वक सम्पन्न गर्न पनि हामी कटिबद्ध छौ ।

यसरी उक्त दुवै सेमिनार सम्बन्धि क्रियाकलापहरु अब यस नव निर्वाचित कार्यकारिणि समितिको लागि पहिलो चुनौतिको रुपमा आएको हामीले महसुस गरेका छौ । त्यसैले यी दुवै सेमिनारहरु पूर्ण रुपले प्रभावकारी तथा सफल पार्नु हाम्रो पहिलो प्राथमिकता हुनेछ । यस सम्बन्धमा यस कार्यकारिणि समितिले के कस्तो किसिमको प्रारम्भिक कार्यहरु चाल्नु पर्छ भन्ने बारे र यसको प्राविधिक पक्ष, आर्थिक पक्ष र कार्यान्वयन पक्षको बारेमा यहाँ उपस्थित सदस्य साथीहरुले आ-आफ्नो सुझाव तथा विचार व्यक्त गरि दिनु भइ छलफल बाट निस्कर्षमा पुग्न सके यस नव निर्वाचित कार्यकारिणि समितिलाई उक्त कार्य सुसम्पन्न गर्न धेरै सघाउ पुग्ने कुरा म यहाँ अवगत गराउँदछु ।

सदस्य साथीहरुको इच्छा अनुरूप विगत वर्षहरुमा फेँ यस वर्ष पनि समाजको वार्षिकोत्सव तथा IDNDR Day मनाउन नव निर्वाचित कार्यकारिणि समिति सहमतिमा पुगेको छ । यस बारे पनि उपस्थित सदस्य साथीहरुले उक्त कार्यक्रम कुन रुपमा कहिले मनाउने भन्नेबारे छलफलगरि हामीलाई सल्लाह दिनु हुन र उक्त कार्यक्रममा हाम्रा सम्पूर्ण सदस्यसाथीहरु सहभागी भइदिनु होला भन्ने हाम्रो पूर्ण विश्वास छ ।

अहिले सम्म हामिले प्रत्येक वार्षिक साधारणसभामा

मात्र यसरी भेलाभई समाजको विधान अनुरूप परिलक्षित गरिएका मुलभुत कार्यहरु र सदस्य साथीहरुबाट उठाइएका बुदाहरुमा मात्र छलफल गरि कार्य कारिणि समितिले कार्य संचालन गर्दै आएकोमा यसलाई अझ प्रभावकारी बनाउन र थप कार्यक्रम संचालन गर्न यसपटक समाजका प्रत्येक सदस्य साथीहरुले समाजप्रति आफ्नो राय, सल्लाह तथा सुझावहरु लिखित रुपमा दिनुहुनेछ भन्ने आशा राखि सो को लागि केहि प्रश्नावली तयार गर्ने प्रक्रियामा छौ । प्रश्नावली तयार हुनासाथ सबै सदस्य

साथीहरुलाई बितरण गरिने र साथीहरुबाट आफ्ना सुझावहरु यथासक्थ चाडै यस नव निर्वाचित का. का. स. लाई उपलब्ध गराई सहयोग गर्नु हुनेछ भन्ने विश्वास छ ।

अन्त्यमा सदा भै सम्पूर्ण सदस्य साथीहरुबाट बारम्बार यस नव निर्वाचित का. का. स. लाई सहयोग एवं सल्लाह मिल्ने नै छ भन्ने अपेक्षा राख्दै आफ्नो मन्तव्य यहि टुडोण्याउँछु ।

धन्यवाद ।

*Best Wishes and Hearty  
Felicitations  
On The Auspicious Occasion Of  
43rd National Democracy Day*

**COMPUTER CONSULT (P) LTD.**

Sajha Bhandar Building, 3rd floor  
Bhotahity, Kathmandu G. P. O. Box 1716  
Tel. 227462

**Our Services Include :**

Computer Training, Hardware Management and Software Development  
Consultancy, Computer Hiring, Renting and Manpower Supply,  
Secretarial Services and Data Processing etc.



*With Best Wishes and  
Hearty Felicitations  
from*

**CEMAT CONSULTANTS (PVT.) LTD.**

(Civil, Electrical, Mechanical, Architectural and Transport Consultants)

*on  
the Auspicious Occasion  
of  
43rd National Democracy Day*

P. O. Box : 395, Maitidevi, Kathmandu

Telephone : 412904, 417746

Telex: 2478 WOCAB NP, Fax: 010-9771-419767

***Fields:***

- Water Resources Development & Irrigation
- Water Supply & Sewerage
- Road, Highways & Bridges
- Commercial, Industrial & Other Complexes
- Power Engineering
- Urban Planning & Infra-Structure Development
- Mechanical and Industrial Engineering
- Integrated Rural Development.

***Services:***

- Preliminary Investigation and Feasibility Studies
- Assistance in project Start-up
- Detailed Engineering, Tendering & Contract Negotiation
- Construction Supervision and Quality Control
- Project Management
- Socio-Economic and Environmental Studies.

## छलफल

प्रस्तुत प्रतिवेदनहरू पछि सदस्यहरूद्वारा उठाईएका प्रश्नहरूमाथि छैटौँ कार्यकारिणी समितीमा सदस्यहरूले जवाफ दिनुभयो र अरु केहि सदस्यहरूले छलफलमा सक्रियतापूर्वक भाग लिनुभई सातौँ कार्यकारिणी समितीलाई विभिन्न सुझावहरू दिनुभयो । मुख्य अंशहरू यहाँ प्रस्तुत गरिएका छन ।

१. श्री बासुदेव खरेलले आउँदो सेमिनार जियोलजि अन्तर्गत नपरेकोले हाइड्रोलजि भन्ने विषय अलि नमिलेको गुनासो गर्नुभयो । यस्मा श्री अच्युतानन्द भण्डारीले बिज्ञान विषय नै धेरै व्यापक भएको र यस सम्बन्धी सेमिनारको पहिलो सर्कुलरमा व्याख्या भइसकेको कुरा उल्लेख गर्नु भयो । तत्पश्चात् श्री खरेलले डिपार्टमेन्ट अफ हाइड्रोलजी श्री ५ सरकारको अर्गनाइजेसन चार्टमा रहेको र सेमिनार अन हाइड्रोलजीको सट्टा जियोहाइड्रोलजि हुनुपर्ने आफ्नो राय व्यक्त गर्नुभयो । यस्मा श्री राम नगीना यादवले आफ्नो सहमति जनाउनु भयो ।
२. श्री कृष्ण मुरारी अमात्यले जहाँ बातावरणको कुरा छ, त्यहाँ जियोलजि पनि पर्दछ त्यसैले संकुचित नरही सेमिनारलाई सफल तुल्याउनेतिर बढी जोड दिनुपर्ने सल्लाह दिनुभयो । यस्मा श्री कल्याण देव भट्टराईले आफ्नो सहमति जनाउनु भयो ।
३. डा. श्री रमेश मान तुलाधरले सेमिनार संचालनको लागि हालको मुख्य बिषय नै आर्थिक कठिनाई हो र सर्वप्रथम त्यस्को लागि आर्थिक श्रोत जुटाउन तर्फ अहिलेदेखि नै लाग्नुपर्ने आफ्नो बिचार व्यक्त गर्नुभयो ।
४. डा. श्री माधव प्रसाद शर्माले सेमिनारको बिषय माथि प्रकाश पाउँ हाइड्रोलजि सेमिनार जियोलजिष्टले आयोजना गरे जियोलजिष्टको हुने, नगरे सिभिल इन्जिनियरको हुने कुरा उल्लेख गर्नुभयो । वहाँले पैसा धेरै हुनु र धेरै खर्च हुनुमा कुन चाही काम गरेको ठहरिने भनी

प्रश्न गर्नु भयो । यस्को उत्तरमा श्री तारा प्रसाद अधिकारीले धेरै पैसा हुनुले अरु काम गर्न प्रोत्साहन हुने र खर्च गरिने ठाउँमा मात्र समाजको पैसा खर्च भएको जानकारी दिनुभयो । डा. शर्माद्वारा हाल समाजले तीन वटा बैंक किन प्रयोग गरेको ? एउटै मात्र प्रयोग गर्ने मिल्दैन र ? भनी गर्नु भएको प्रश्नमा श्री तारा प्रसाद अधिकारीले रु. ३७,०००/- भन्दा बढी रकमको ब्याजमा कर लाग्ने हुनाले यस्तो गरिएको हो भनी उत्तर दिनु भयो ।

५. श्री कृष्ण मुरारी अमात्यको आउँदो सेमिनार कहाँ गरिने भन्ने प्रश्नमा श्री तारा प्रसाद अधिकारीले कम खर्च पर्ने गरी तारा गाउँ होटेलमा गर्नुपर्ने बिचार व्यक्त गर्नुभयो ।
६. श्री कृष्ण प्रसाद काफ्लेले आउँदो सेमिनारको लागि आ-आफ्नो लेखहरू समयमै समाजमा उपलब्ध गराउन हुन अनुरोध गर्नु भयो ।
७. श्री तारा प्रसाद अधिकारीले समाजबाट प्रकाशित हुने जर्नल र न्युज बुलेटीनको स्तरबारे सुधारको लागि सम्पादक मण्डललाई सदस्यहरूबाट टिप्पणी गर्नुका साथै समय समयमा घचघच्याउनु पर्ने सुझाव व्यक्त गर्नु भयो ।
८. डा. श्री रमेश मान तुलाधरले कार्यकारिणी समितीलाई स्लीड गभर्नमेन्ट र अरु सदस्यहरू अपोजीसन पार्टीको जस्तो भएर व्यवहार गर्न नहुने कुरा व्यक्त गर्नु भयो ।
९. डा. श्री माधव प्रसाद शर्माले जोगीभारा ल्याण्डस्लाइड मिजिटबारे खानी तथा भूगर्भ बिभागको म्याग्नेटोमीटर प्रयोग गर्न नखोजिएको भन्ने प्रश्नमा श्री माधव राज पाण्डेसंग कुरा हुँदा बिभागमा भएको यन्त्र हाई प्रेसिजन नभएको जानकारीमा आएकोले सो प्रयोग नगरिएको जानकारी दिनु भयो ।
१०. श्री रमेश कुमार अर्यालले आर्थिक कठिनाई

नभएतापनि समाजको जर्नल प्रकाशनमा किन ढिलाई भयो भनी सोधिएको प्रश्नमा श्री कृष्ण प्रसाद काफ्लेले पहिलेको तुलनामा प्रिन्टिङ खर्च बढ्नुको साथै जर्नललाई सुहाउँदो लेख रचनाहरू समयमै प्राप्त नभएको कारण यसो भएको हो र लेखहरू समयमै प्राप्त भएको खण्डमा समयमै प्रकाशन गर्नमा सघाउ पुग्ने विचार व्यक्त गर्नुभयो । यस्मा डा. श्री रमेश मान तुलाधरले आफ्नो समर्थन जनाउनुको साथै समाजको क्रियाकलाप व्यापक नभएसम्म न्युज बुलेटिनलाई प्रकाशनमा नल्याएपनि हुने, बरु समाजले सेमिनार बर्कसप र अरु बैज्ञानिक कार्यक्रमहरूको आयोजना गरी आफ्नो क्रियाकलापहरूलाई व्यापक बनाउनुपर्ने सुझाव व्यक्त गर्नु भयो ।

११. श्री रमेश कुमार अर्यालले समाजको न्युज बुलेटिनलाई सुधार गरी स्तरयुक्त बनाउनु पर्ने सुझाव व्यक्त गर्नुभयो ।

१२. श्री कल्याण देव भट्टराईले समाजको कार्यकारिणी समितिको काम गराई तरिकामा सुधार ल्याउनु पर्ने टिप्पणी गर्नुको साथै कार्यकारिणी समितिबाट समाजको लागि गरिने तमाम बर्किङ टार्गेटहरू सबै सदस्यहरूलाई समयमै जानकारी भएमा मात्र सदस्यहरूबाट व्यापक सहयोग हुन सक्ने आशा व्यक्त गर्नु भयो ।

१३. श्री माधव प्रसाद शर्माले समाजको वार्षिक साधारण सभामा कार्यकारिणी समितिका अध्यक्षको भाषण पनि समावेश हुनु पर्ने सुझाव व्यक्त गर्नु भयो ।

१४. श्री रमेश कुमार अर्यालले समाजको Journal लाई बिना मूल्य वितरण गर्नुपर्ने र उधारी बिल बनाई पठाउने व्यवस्था गर्नुपर्ने भन्ने सुझावमा श्री अच्युतानन्द भण्डारीले जर्नल बिना मूल्य

दिएर कसैले नपढ्ने र गत १-२ वर्षदेखि जर्नलको माग बढी भईरहेको देखिएकोले बिना मूल्य जर्नल वितरण गर्न नहुने कुरो व्यक्त गर्नुभयो ।

१५. डा. श्री विशाल नाथ उप्रेतीले पाँच वर्षको एकै पटक पोष्टल चार्ज सहित पेमेन्ट लिने गरी उधारीमा जर्नल दिने व्यवस्था हनुपर्ने र जर्नलको प्रिन्टिङ फर्मेट सेटअप गरिनुपर्ने कुरा व्यक्त गर्नको साथै समाजको विधान अनुरूप बिदेशी तथा स्वदेशी भू-बैज्ञानिकहरूलाई समाजबाट सम्मानित सदस्यता प्रदान गर्नुपर्ने बेला भएको कुरालाई औल्याउनु भयो । यस्मा श्री अच्युतानन्द भण्डारी तथा श्री कृष्ण प्रसाद काफ्लेले समर्थन गर्नुको साथै सम्मानित सदस्यताबारे निकट भविष्यमै यसको सुरुवात गरिने जानकारी व्यक्त गर्नु भयो ।

१६. डा. श्री माधव प्रसाद शर्माले ग्लोबल इन्भाइरन्मेन्ट चेन्ज सम्बन्धि समाजले केहि कार्यक्रम गर्न सक्छ कि सक्दैन ? भनी पूर्व तथा नवनिर्वाचित कार्यकारिणी समितिलाई गर्नु भएको प्रश्नमा श्री तारा प्रसाद अधिकारीले यसबारे नवनिर्वाचित कार्यकारिणी समितिले हेर्नुपर्ने र यस सम्बन्धी केहि दायित्व सम्पूर्ण सदस्यहरूको पनि हुनुपर्ने भनी आफ्नो विचार व्यक्त गर्नुभयो ।

१७. श्री अच्युतानन्द भण्डारीले समाजको कार्यकारिणी समिति र सदस्य महानुभावहरू बढी कृयाशिल भएको लक्षण देखिनु समाजको हितको लागि खुशीको कुरो हो भनी आफ्नो विचार व्यक्त गर्नुभयो ।

१८. श्री कल्याण देव भट्टराईले समाजलाई बैज्ञानिक ढाँचा अनुरूप लानुपर्ने र सानातिना असम्बन्धित कुरामा नजल्मलाई विशुद्ध पेशागत समाज बनाउनु पर्ने सुझाव व्यक्त गर्नुभयो ।

# Environmental Assessments : Talc Plant and Dead Burnt Magnesite (DBM) Plant Lamosangu

• By : Dilip Kumar Pradhan\*

## Introduction :

The Talc plant and D. B. M. plant of Nepal Orind Magnesite (P) Ltd. are situated on the banks of the Sunkoshi river at Lamosangu of Sindhupalchowk district in Bagmati Zone of Central Development Region. It is about 81 km north east of Kathmandu along the Arniko Highway at an elevation of 850 m. above mean sea level.

## Climatic Condition :

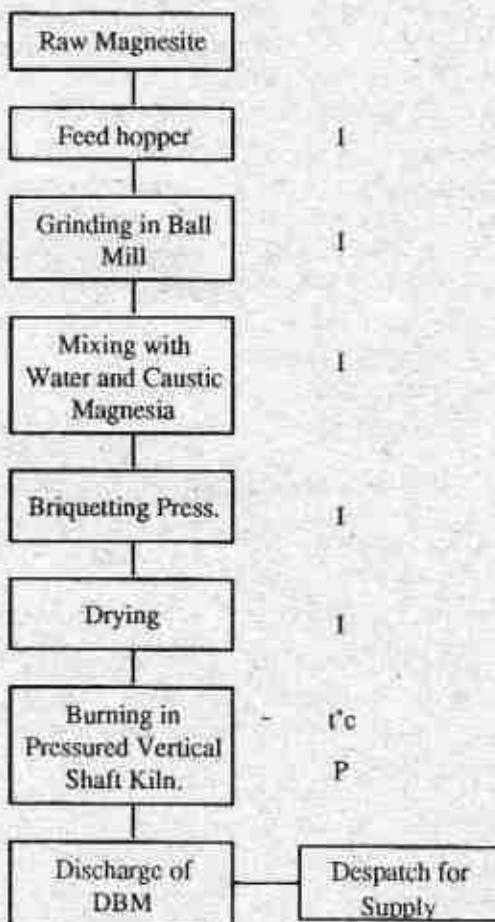
The site is very dry and hot during summer months. The maximum temperature in summer exceeds 35°C while the minimum during winter is less than 10°C. Annual rainfall about 1400 mm. Diurnal temperature inversions occur during night hours at this location.

## Environmental Pollution :

The production process of Talc plant, having a capacity of 30 tonnes per day is quite simple. The pregraded Talc is at first crushed in the crusher and then ground to fine powder form up to fineness of 325 BS mesh in the grinding unit and bagged in the packing unit and dispatched for sale. The crushing and grinding processes are completely mechanized and relatively dust-free. However, the bagging process is manual and dust-prone.

The production process of D. B. M. plant of 50,000 tons per annum capacity is based on modern pressured vertical shaft kiln technology. (see simplified diagram of D.B.M plant ). In course of the technological process as shown in

**Simplified Diagram of Dead Burnt Magnesite Manufacturing Process:**

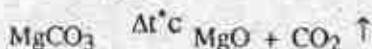


Inputs

I - Electrical Current

t°c - Temperature

P - Pressure



\* Junior Mines Manager, Nepal Orind Magnesite (P) Ltd.



simplified diagram of D. B. M. Plant, enormous amount of dust effluents are emitted. Dust is particularly evident on exposed rock, soil of the terraces and shrub vegetation in the vicinity of the plant area. The second type of the pollution from D. B. M. plant is gaseous emissions to the surrounding nature during burning process. Because furnace or diesel oil is used to generate the required heat energy in the shaft kiln for the conversion of raw magnesite into dead burnt magnesite, the burning of fuel itself produces gaseous emission such as carbon dioxide, sulphur dioxide, nitrogen dioxide depending upon the quality of the fuel and burner used. But in the event of incomplete combustion and oxidation process, more harmful gases like carbon monoxide, hydrocarbon and aldehydes may be emitted to the atmosphere. The imminent noise and vibration pollution inside and outside the factory due to the operation of D. B. M. plant should necessarily be measured and compared to find out the degree of the pollution, because it creates a significant occupational health hazard on the long term basis.

### Envisaged measures :

- i) Dust mask has been provided to the operating personnel as an individual personal dust protector. Quality improvement of the mask is necessary.
- ii) In the plant different bag filters are installed

to minimize dust effluents. Screw conveyor is also provided with a water spraying system to minimize the dust emission.

- iii) Plantation is the priority and regular practice in the factory premises to balance carbon dioxide emission to the atmosphere.

It may be suggested to use low sulphur content fuel and special burners in order to minimize Sox and Nox emission respectively.

### Conclusions :

At the plant site, despite the plant is still on trial stage as it is based on a new technology of one of its kind in the world, and has not yet run as stipulated programme, it is envisaged that stack emissions may create problem due to its location in deep valley and temperature diurnal inversions which may add to the green house gases.

However, keeping in view the deep valley, location of the plant and diurnal temperature inversions, a complete monitoring system would probably be developed to assess the emission effect and it is expected that the proper emission control, then will be launched accordingly, if necessary.

His Majesty's Government's help and co-operation are quite important to achieve the objectives of the company.



## NGS Bi-annual Function

Nepal Geological Society has established its tradition of observing a Bi-annual function organising a Bi-annual Dinner on Sept. 23, 1992 at Hotel Himalaya, Kupandole. High officials of His Majesty's Government, Journalists, distinguished personalities and wholehearted participation of the members of the Society made the function a grand success.

Mr. Laxman Prasad Ghimire, Minister of State for Water Resources, graced the function as the Chief Guest and commended the role played by the Nepal Geological Society in developing the Knowledge on Himalayan Geology and in publishing one of the standard scientific Journal regularly. He highlighted the importance of the Earth Scientists, incorporating the planning, designing and construction of different

infrastructure in Nepal. The function was chaired by Dr. C. K. Sharma, Acting Secretary of WECS.

The function was convened and initiated by outgoing Secretary, Mr. T. P. Adhikary with an introduction of newly elected seventh Executive Committee members of the Society

Mr. A. N. Bhandary, outgoing President of the Society delivered the welcome speech and newly elected Vice-president of the Society, Mr. K. P. Kaphle presented the overview of the past activities and future programme of the Society. Mr. G. B. Tuladhar, Secretary-elect of NGS presented the Vote of Thanks.

After the Closing Ceremony, the function was followed by the Bi-annual Dinner in a cordial atmosphere.

*Best Wishes and Hearty Felicitations  
On The Auspicious Occasion  
Of 43rd National Democracy Day*

### **Core Consultancy (Pvt.) Ltd.**

P. O. Box 720, Kathmandu, Nepal  
Tel. 415031, 414330, 411139

#### **We are specialised in :**

- Exploration and Evaluation of Metallic and Non-metallic Minerals including Gemstones
- Feasibility Study and Mine Planning
- Petrographical, Mineralogical and Sedimentological Investigations
- Geotechnical / Engineering Geologic Studies
- Environmental Survey

*Best Wishes and  
Hearty Felicitations  
on  
the Auspicious Occasion  
of  
43rd National Democracy Day*

**SILT Consultants (P.) Ltd.**

Battisputali (Baneshwor), Kathmandu, Nepal  
P. O. Box : 2724, Telex : 2314 RAITRA NP  
Cable : SILCON, Fax : 977-1-227431  
Phone : 473573, 470866

**We are specialised in**

- Feasibility study and preliminary planning
- Land use survey and mapping
- Survey and design of foundation, transportation, irrigation and water supply schemes including buildings
- In-situ & laboratory testing of rock, soil & construction materials including drilling
- Slope stability analysis and erosion protection works
- Geological survey, investigation and mapping
- Economic analysis and cost estimating
- Agricultural and socio economic studies
- Environmental engineering and impact evaluation
- Preparation of tender documents, specification and training and maintenance programme
- Construction management and supervision of construction works etc.

## NGS Sub-Committees

In order to further expand its professional activities the Executive committee has reorganised the following sub-committees :-

- Editorial Board
- Advisory Board
- Financial Sub-Committee
- Scientific Sub-Committee
- National/International Relation Development Sub-Committees
- Socio-Cultural Sub-Committee
- Rules and Regulations Sub-Committee
- NGS-IDNDR Council

### Editorial board

This Editorial Board is responsible for collecting scientific papers, popular scientific articles, relevant news etc. and for managing the publication of Journals and News Bulletins.

Its composition is as follows:

- |                             |                     |
|-----------------------------|---------------------|
| 1. Dr. Chandra Kanta Sharma | Chief Editor        |
| 2. Nirendra Dhoj Maske      | Deputy Chief Editor |
| 3. Ganga Bahadur Tuladhar   | Managing Editor     |
| 4. Dr. Bishal Nath Upreti   | Editor              |
| 5. Devi Bahadur Thapa       | "                   |
| 6. Dr. Dibya Ratna Kansakar | "                   |
| 7. Kiran Karki              | "                   |
| 8. Tara Prasad Adhikary     | "                   |
| 9. Dr. Vishnu Dongol        | "                   |

### Advisory Board

The Advisory Board provides necessary counsel as and when required, to the Executive

Committee on important matters. The members are :

1. Dr. Chandra Kanta Sharma
2. Gopal Singh Thapa
3. Jhumar Mai Tater
4. Dr. Madhav Prasad Sharma
5. Narendra Bahadur Kayastha
6. Padma Lal Shrestha
7. Shambhu Prasad Singh
8. Yadav Lal Vaidya

### Financial Sub-Committee

The financial Sub-Committee is responsible for raising funds as well as for managing the Society's assets

The Sub-Committee members are :

1. Siddi Bahadur Ranjitkar- Co-ordinator
2. Achuta Nanda Bhandari
3. Govinda Sharma Pokharel
4. Kalyan Dev Bhattarai
5. Kiran Raj Poudel
6. Krishna Murari Amatya
7. Nirendra Dhoj Maske
8. Mrs. Rama Shrestha
9. Shardesh Raj Sharma
10. Tej Man Singh

### Scientific Sub-Committee

The Scientific Sub-Committee is responsible for organising lectures, workshops and seminars on geological sciences and related fields. It also fosters expertise development in the major fields of geoscience relevant to the countries need and helps to create proper and adequate positions for



geoscientists in general.

The Sub-Committee members are:

1. Dr. Ramesh Prasad Bashyal - Coordinator
2. Devi Bahadur Thapa
3. Dr. Dibya Ratna Kansakar
4. Krishna Prasad Kaphle
5. Madhav Raj Pandey
6. Dr. Rajendra Bahadur Shrestha
7. Dr. Ramesh Man Tuladhar
8. Vijaya Bahadur Shrestha
9. Dr. Vishnu Dongol

### **National/International Relations Development Sub-Committee**

The National/International Relations Development Sub-committee maintains professional and scientific relations between the Society and similar national and international Societies. It also assists in disseminating the information on activities of the Society to its members through National/Foreign Regional Representatives.

The Sub-Committee members are :

1. Ganga Bahadur Tuladhar, Co-ordinator
2. Ashok Kumar Duvadi
3. Dr. Bishal Nath Upreti
4. C. K. Chakraborty
5. Kamal Bahadur Bhaila
6. Dr. Prakash Chandra Adhikary
7. Umesh Shakya

#### **Foreign Regional Representatives :**

- |                                |           |
|--------------------------------|-----------|
| 1. Dr. Patrick Le Fort-        | Europe    |
| 2. Dr. David Scott Silverber - | America   |
| 3. Dr. Harutaka Sakai -        | Japan     |
| 4. Dr. John A. Talent -        | Australia |

#### **National Regional Representatives :**

1. Dr. Purushottam Prasad Adhikary  
- Eastern Region, Biratnagar

2. Moti Bahadur Kunwor  
- Central Region, Birgunj
3. Jitendra Ghimire  
- Western Region, Bhairahawa
4. Ramesh Chandra Gautam  
- Mid-Western Region, Dang
5. Pratap Singh Tater  
- Far-Western Region, Dhangarhi

### **Socio-cultural Sub-Committee**

The Socio-Cultural Sub-committee will organise various social and cultural activities in the benefit of the Society

The Sub-Committee members are :

1. Bhola Kishor Dongol- Co-ordinator
2. Basu Dev Kharel
3. Keshav K. C.
4. Khagendra Kafle
5. Prayag Man Pradhan
6. Radha Krishna Karki
7. Mrs. Rama Shrestha
8. Rupendra Ratna Shakya
9. Upendra Bhakta Pradhananga

### **Rules & Regulations Sub-Committee**

In order to carry out the professional activities of the Society more efficiently and effectively, this Sub-Committee has been formed to provide first draft of necessary rules and regulations within the Society's Constitution and submit it to the Executive Committee by May, 1993.

The Sub-Committee members are :

1. Achuta Nanda Bhandari- Co-ordinator
2. Jagadishwor Nath Shrestha
3. Nir Shakya
4. Pranab Lal Shrestha
5. Ramesh Kumar Aryal

6. Sanjwol Ratna Bajracharya

7. Tara Prasad Adhikary

### **NGS-IDNDR Council**

The NGS-IDNDR Council aims at adequate support to International Decade Natural Disaster Reduction National Committee in formulating and executing the various hazard reduction national programmes as well as increasing awareness among the Nepalese people regarding the possibilities of mitigating the hazards.

The members are:

1. Amod Mani Dixit - Co-ordinator
2. Achuta Nanda Bhandari
3. Mrs. Damayanti Gurung
4. Devi Bahadur Thapa
5. Jivan Lal Shrestha
6. Dr. Megh Raj Dhital
7. Pratap Singh Tater
8. Sanmukesh Amatya
9. Vishnu Das Shrestha

*With Best Complements  
from  
Agricultural Lime Industry Limited  
on  
the Auspicious Occasion  
of  
43rd Anniverssary of National Democracy Day*

*Products:* Hydrated Lime, Pulverised Lime, Agricultural Lime,  
Quick Lime, Brick Powder (Surkhi.)

Chovar, Kathmandu  
Post Box :- 1261  
Tel : 2-22753, 2-13231

**SOIL AND WATER IS OUR MAIN CONCERN  
WE DO**

SITE INVESTIGATION IN ANY GEOLOGICAL FORMATIONS  
LABORATORY TESTING OF SOIL, WATER, CONSTRUCTION MATERIALS  
CHEMICAL AND BIOLOGICAL ANALYSIS OF ANY SUBSTANCES  
FOUNDATION DESIGN AND CONSTRUCTION SUPERVISION  
PILES-DESIGN AND CONSTRUCTION  
DEEP OR SHALLOW WELL BORING  
CIVIL ENGINEERING SURVEY, DESIGN AND CONSTRUCTION SUPERVISION

*Best Wishes and  
Hearty Felicitations  
on  
the 43rd Anniversary  
of  
National Democracy Day*

**SOIL TEST (P) LTD.**

NAYA BANESHWOR

P. O. BOX. NO. 2967, KATHIMANDU

TEL : 223580, 224760. FAX : 977-1-226088

# Seminar on Geological Hazards and Environmental Problems in Nepal

Nepal Geological Society has established a tradition of observing the International Day for Natural Disaster Reduction (IDNDR) every year by organising seminar on disaster related topics. The IDNDR day falls on the second Wednesday of October each year. This day is observed throughout the World by the scientific community to raise awareness about the possibility of reducing the impact on natural disasters by the application of available knowledge prudently.

Nepal Geological Society continued this tradition in 1992 also by organising a Seminar on Geological Hazards and Environmental Problems in Nepal. The one day forum was organised in the Convention Hall of Agricultural Projects Services Centre (APROSC) in Kathmandu, and was participated by academicians, politicians, social scientists and practising engineers and scientists representing different government agencies, corporate institutions, academic institutions and engineering consulting firms. Representatives of different scientific and engineering professional societies - Nepalese as well as expatriate, also participated in the meeting.

Assistant Minister for Industry and Labour graced the Seminar as the Chief Guest. Inaugurating the Seminar, the Chief Guest, Honourable D. M. Sherchand commended the role played by the Nepal Geological Society in developing the knowledge on Himalayan Geology, in publishing the scientific journal and in showing the concerns in disaster mitigation in Nepal. He called the engineers and scientists of the country to resolve the problems of environment and natural disaster in the region.

The inaugural session was chaired by the Director General of the Department of Mines & Geology Mr. S. P. Singh. Delivering his message, Mr. Singh stressed the importance of geological considerations in reducing the environmental problems in Nepal.

The Seminar was conducted in three sessions. In the inaugural session, welcoming the guests and the participants the President of the Society Mr. A. M. Dixit highlighted the activities of NGS and the organisation's quest for raising the awareness of the possibilities of reducing the damages from natural disasters. Mr. Dixit pointed out the necessity of uniting the efforts of the government agencies and that of the professional societies and other groups which are committed to the task of natural disaster reduction. He requested the National IDNDR committee to include in its membership representations from Nepal Geological Society, the Department of Mines and Geology, the Geology Department under the Tribhuvan University and the private sector.

Prof. Dr. Edmond Krauter from the University of Mainz, Germany, who is also a member of NGS and the Vice-chairman of the European sub-committee of IDNDR, spoke about the objectives and current international activities of the International Decade for Natural Disaster Reduction ((IDNDR) which is to last till 1999. Mr. G. B. Tuladhar, secretary of NGS, offered the vote of thanks. The session was convened by Mr. K. P. Kaphle.

The following two technical sessions were devoted to the problems of natural disasters, their causes and the ways to mitigate them. The first session was chaired by Mr. N. B. Kayastha and



the convener was Mr. P. R. Joshi, Mr. K. B. Bhalla, Dr. T. Sharma and Mr. S. C. Amatya served as the rapporteurs, Mr. M. R. Pandey presented his paper "Big Earthquakes in Nepal Himalayas : where and how frequent? ". Dr. R. D. Sharpe described the seismic hazard assessment works being undertaken as one of the sub-components of the National Building Code Development Project which is currently being implemented under MHPP/Habitat. Mr. U. Shakya presented the case of land subsidence in Kushma of Parbat district. Mr. A. Koirala talked on the causes of mass movements on hill slopes of Nepal Himalayas.

Dr. B.N. Upreti chaired the Second Session

which was convened by Dr. R.B. Shrestha. Mr. V.B. Shrestha, Mr. B.D. Kharel and Ms. Damayanti Gurung were the rapporteurs. In this session Dr. A.P. Sharma presented his interesting paper on river pollution of Kathmandu valley. Dr. C.K. Sharma delivered his views on Natural Hazards and Man-induced Disasters in Nepal Himalayas. A paper on watershed prioritization methodology for watershed management was read by Mr. B.D. Shrestha. Prof. E. Krauter presented his paper "Landslides: An International Environmental Problem".

Abstract of the presented papers are being reproduced in this volume.

*Felicitations & Best Wishes  
On  
The Auspicious Occasion  
Of  
The 43rd Anniversary Of  
National Democracy Day*

With Compliments :

**EAST Consult (P) Ltd.,**

P. O. Box 1192, Lazimpat, Kathmandu, Nepal

Tel. 4-12062 & 4-13267, Fax : 977-1-417895

Engineers,

Social Scientists,

Economists,

Development Planners

# **Big Earthquakes in Nepal Himalaya : Where? How Often?**

- By : M. R. Pandey\*

Earthquakes bigger than seven magnitude which might cause a far greater consequence than the last two earthquakes in the eighties are the burning issues which the Geo-scientists have to deal with to mitigate earthquake hazard in the country. The existing state of art knowledge of geo-science in Himalayan collision belt is still below permissible line for the resolution of problems related to big earthquakes in spite of accumulation of scientific data and research results year after year. In a few years to come we may expect a break through of our scientific vision of Nepal Himalaya with the data of the National Seismological Network which is being installed by the Department of Mines and Geology and precise monitoring of surface deformation by GPS survey. At present only primitive models with unconstrained variables can be considered in seismic hazard assessment. However, results of primitive model should provide guidance not only in defining research problems and methodology but also in long term strategy of hazard mitigation.

The Kingdom of Nepal extends longitudinally for

about 800 km. Considering extra 200 km. in east and west of the frontier of the country the seismically affecting segment of Himalayan arc comprises 1200 km. Earthquakes which would rupture about 100 km. of segment will number to twelve to break the entire seismically affecting part of Himalayan arc. Even with recurrence of 600 years one earthquake can be expected in average every fifty years to affect some part of the country. An earthquake rupturing 100 km. of length can be attribute to have a magnitude between seven and eight. In reality the size of potential ruptures may be different in different part of the affecting arc and may be bounded between 100 to 200 km. in the range of big earthquakes. Similarly the uncertainty of recurrence is related to uncertain of the slip rate and other parameters. Realistic scenario can be better evaluated only after our research result bounds these unknowns with more scientific data.

## **Seismic Hazard Assessment in Preparation for a National Building Code For Nepal**

- By : Dr. Richard Sharpe\*\*

The 1988 earthquake in Nepal, and the resulting deaths and damage to both housing and schools, again drew attention to the need for changes and improvement in current building construction and design methods. The Ministry of Housing and Physical Planning, with financial and technical assistance from UNDP and UNCHS, has commissioned a sub-project to plan for the introduction of minimum standards for all

participants in the building process. This paper outlines progress in the first sub-component of this task which involves the assessment of the seismic hazard in Nepal. The methodology by which this is being undertaken and the means by which results can be used to derive rational seismic design loads for inclusion in a future National Building code are briefly described.

---

\* Senior Seismologist, Department of Mines and Geology

\*\* Structural Engineer, Beca Worley International, New Zealand

# **Land Subsidence Problem in Kusma Area, Parbat District, Western Nepal**

**By : Umesh Shakya\***

The Kusma terrace situated at the confluence of Kaligandaki River and Modi River faces the problem of land subsidence. A recent study of the phenomena showed that the conglomerate constituting the terrace is calcareous and is maturely karstified. Subsurface solution channels are filled up with younger slope wash deposits

secured which get and eroded by sub-surface flow giving rise to subsidence. The latter is a nuisance to the construction activities associated with the expansion of the township. Remedial measures identified by the study include filling up of the sink holes and the provision of mat or strip foundation in sink hole prone areas.

## **Causes of Mass Movements on the Hill Slopes of Nepal Himalaya**

**- By : Achyuta Koirala\*\***

Most of the hill slopes of the Nepal Himalaya are very delicate in terms of mass movement susceptibility. By studying geology, geomorphology, hydrology as well as land use of the corresponding hill slopes different intensity of mass movements can be identified. The triggering agents for a particular type of mass

movements are not the same in different physiographic regions of Nepal Himalaya due to the variation in climatic and the vegetational conditions. This paper tries to highlight the role of a particular triggering agent of a mass movement in a specific physiographic region of the Nepal Himalaya.

---

\* Mining Engineer, Department of Mines and Geology.

\*\* Engineering Geologist, Department of Mines and Geology.

# **River Pollution of Kathmandu Valley**

**By : A. P. Sharma\***

Pollution of river has been recognized for many years as a public health problem. In developing countries millions of people depend for their daily water supply on river. The major sources of water pollution are found to be domestic discharge and industrial effluent being released directly to Bagmati, Bishnumati and Dhobi Khola rivers of Kathmandu Valley.

All the samples from different sites of river water show high number of faecal coliform bacteria. The amount of chloride, nitrate, ammonia and Biological Oxygen Demand (BOD) was also very high. Chromium was also found above WHO tolerance limit in Dhobi Khola Water. These results clearly indicate that the rivers of Kathmandu are highly polluted and are not safe for drinking, bathing and other uses.

## **Natural Hazards and Man Induced Disaster in Nepal Himalaya**

**- By : Dr. C. K. Sharma\*\***

Time demands the assessment of natural and man made hazards of the country, which is striving to build several infrastructures of development. The hazards in Nepal Himalaya are closely related to (1) Steep terrain with rainfall and GLOF activities, (2) Fragile geology, (3) Tectonically mobile belt as well as (4) Human activities like deforestation, infrastructure developments and

mining etc. Hence the efforts have to be put on to carry out geological investigations to prepare Seismic hazards Zonation map, Landslide prone areas map, Engineering geological map, GLOF disaster map and site specific geological maps. By knowing the prone area one can mitigate the disaster to some extent.

---

\* Microbiologist, Department of Microbiology, T.U.

\*\* Secretary, Water Resources Development Commission, HMG Nepal.



# **Watershed Prioritization Methodology for Watershed Management**

- By : B. D. Shrestha\*

Considering the bio-physical diversity, drainage system and micro-climatic variations sub-watershed management seems to be the most appropriate planning unit for addressing the problem of maintaining ecological balance. For

this it is essential to prioritize various sub-watersheds in small regions. A methodology has been developed on the basis of land utilization and land system maps prepared by Land Resource Mapping project.

## **Landslides - An International Environmental Problem**

- By : Prof. E. Krauter\*\*

Landslides, often triggered by human activities, occur worldwide and have to be considered as an increasing environmental problem.

A variety of disastrous damages from different countries is presented and the dramatically increasing losses of economic and social losses are demonstrated. There is an urgent need to make people aware of these facts.

Human activities as widespread deforestation are the main reasons for this increase. Efforts have to be made to counteract this development.

First, an intensified interdisciplinary research has to be established to analyse and to document the landslide disasters and, second, to survey and control the slope movements. For this, specific warning systems have to be developed and to be installed. Finally, an appropriate national disaster reduction management must be established.

The relation between global climatic change and the increased development of mass movements on slopes is briefly demonstrated.

---

\* Divisional Geologist, Department of Soil Conservation and Watershed Management  
\*\* German Expert, German Technical Advisory Group to DMG

# सेमीनार सम्बन्धमा दैनिक अखबारहरू

गोरखापत्र दैनिक, आश्विन ३०, २०४९  
प्राकृतिक प्रकोप विषयक गोष्ठीमा  
छलफल

काठमाण्डौ, असोज २९ गते ।

प्राकृतिक उत्पात न्यूनिकरण अन्तर्राष्ट्रिय दिवसको उपलक्ष्यमा नेपाल भौगर्भिक प्रकोप र वातावरणीय समस्या विषयक एक दिने गोष्ठीको यहाँ आयोजना गरियो ।

उक्त गोष्ठीमा श्री ५ को सरकारका विभिन्न विभाग, संस्था, त्रिभुवन विश्वविद्यालयका भूगर्भविद्, परामर्श दातृ संस्था, गैरसरकारी र नेपालस्थित विभिन्न अन्तर्राष्ट्रिय संघ-संस्थाका गरी १५० जनाको सहभागिता थियो ।

सर्वसाधारण जनतामा बढ्दै गइरहेको विभिन्न प्राकृतिक प्रकोपको कारणबारे चेतना जगाउने, प्राकृतिक प्रकोप निराकरणका संभावित उपायहरू पत्ता लगाउने र श्री ५ को सरकारको सम्बन्धित निकायसंग संझौता गरी भौगर्भिक उत्पातको असर न्यून गर्नमा सघाउ पुऱ्याउने गोष्ठीको उद्देश्य रहेको छ ।

उद्योग तथा श्रम सहायकमन्त्री दिवाकर मान शेरचनले सो गोष्ठीको उद्घाटन गर्दै विभिन्न प्राकृतिक प्रकोपको समस्या समाधान गर्न यस

क्षेत्रमा भूगर्भविद् र वैज्ञानिकहरूले धेरै नै काम गर्नुपर्ने कुरामा जोड दिनुभयो ।

सहायक मन्त्री शेरचनले आर्थिक विकासका साथसाथै वातावरणीय विकास पनि अति आवश्यक छ भन्नुभयो ।

समारोह खानी तथा भूगर्भ विभागका महानिर्देशक शम्भु प्रसाद सिंहको सभापतित्वमा भएको थियो ।

प्राकृतिक उत्पात न्यूनिकरण अन्तर्राष्ट्रिय दिवस (आइ.डी.एन.डी.आर.) का सदस्य प्रो. डा. ई. कूउटरले आइ.डी.एन.डी.आर. को उद्देश्य र प्राकृतिक प्रकोपका अन्तर्राष्ट्रिय क्रियाकलापमाथि प्रकाश पार्दै प्राकृतिक प्रकोप कम गर्नमा त्यसको महत्व रहेको कुरा बताउनु भयो ।

नेपाल भौगर्भिक समाजका अध्यक्ष आमोदमणि दीक्षितले प्राकृतिक प्रकोपको क्षेत्रमा समाजले खेन्दै आएको भूमिकाबारे चर्चा गर्नुभयो ।

समाजका सचिव गंगाबहादुर तुलाधरले समाजका विभिन्न क्रियाकलाप माथि प्रकाश पार्नुभयो ।

गोष्ठीमा नेपालमा प्राकृतिक प्रकोपको विभिन्न विषयमा प्रस्तुत कार्यपत्रमाथि छलफल पनि गरिएको थियो ।

रासस

The Rising Nepal Daily on Oct. 15, 1992

## Geological Seminar Organised

Kathmandu, Oct. 14 (RSS) :

Nepal Geological Society held a one-day seminar on "Geological Hazards and Environmental

Problems in Nepal" here Wednesday to mark the international day for natural disaster reduction.

One hundred fifty delegates from various

departments of His Majesty's Government, corporations, geologists from Tribhuvan University, consultant agencies, non-governmental and Nepal based international agencies participated in the seminar.

The objective of the seminar is to generate public awareness about the causes of growing incidence of natural disasters, ways of detecting them and the need to reach an agreement between HMG and the unit concerned for reduction of natural disaster.

Inaugurating the seminar, Assistant Minister for Industry and Labour Diwakar Man Sherchan stressed that geological scientists have a lot of

things to do to resolve the problems of natural disasters in this region.

"Economic development and protection of the environment are equally important," He said.

Director General of the Department of Mines and Geology Shambhu Prasad Singh presided

Prof. E. Krauter shed light on the objectives and current international activities of IDNDR.

Chairman of Nepal Geological Society Amod Mani Dixit commented on the activities of the society.

RSS

*Best Wishes and Hearty Felicitations  
on the Auspicious Occasion of  
43rd Anniversary of National Democracy Day*

## **HIMALAYAN SHINING INDUSTRY**

G.P.O. BOX 1228, KATHMANDU

PHONE : 211367, 214747

FOR POLISHING DIFFERENT METALLIC GOODS

BE IT MADE OF

GOLD, SILVER, COPPER, BRASS, BRONZE OR WHITE METAL

# A Glimpse of Kathmandu Gas Project, DMG

By : R. K. Aryal\* and B. R. Aryal\*\*

The Kathmandu methane reservoir is contained in the unconsolidated sedimentary deposits of the valley containing organic material. The natural gas is mostly confined within the fine grained sand unit dissolved in the reservoir which are commonly above 300 m. depth. Methane production has a value of 1 to 2 cu. m. per day per meter of thickness. If 100 and 200 m are assumed for reservoir thickness in the fine grained unit the potential range from 100 to 200 m. cu. m per day. The methane production of DMG wells range from 50 to 161 cu. m per day. For domestic use the average family or household consume about 0.75 cu. m per day (270 cu. m. of gas per year). About 200 million cu. m of gas deposit has been proved in 18 sq. km. area of block A and block B.

## Introduction

The Kathmandu Gas Project was started by HMG of Nepal in 1980 to explore and develop the methane reservoir in the Kathmandu valley. The project is supported by HMG of Nepal with assistance first provided by the Japan International Cooperation Agency (JICA) and there after the United Nations Development Programme (UNDP).

Since the total gas prospective area is assumed to be about 26 sq. km. in the central part of Kathmandu Valley, DMG is carrying prone area from its own resources. Till now 11 test wells have been completed in the 18 sq. km. area of the whole gas prospective area. The total gas reserve estimated in this 18 sq. km area is about 200

million cubic meter.

## Reservoir Geology

The Kathmandu Valley is a small intra-mountain basin developed in the lesser Himalaya of central Nepal between the Sheopuri Lekh to the north and the Mahabharat Lekh to the south. The valley has a mean elevation of 1,350 m (4,430 ft) and an area of about 400 km<sup>2</sup> (154 mile<sup>2</sup>) (JICA 1980). The valley has been filled by river and lake (fluvio-lacustrine) unconsolidated sediments ranging from clay to boulder size, during the relatively recent geologic time period (Present to Quaternary) (JICA 1980).

Based on size reduction trend (N-S) JICA in 1980 classified whole sediments into three facies:

Facies I = River deposition (Fluvial),

Facies II = Delta deposition (Fluvial-lacustrine),

Facies III = Lake deposition (Lacustrine).

The Lacustrine as well as fluvial deposit in the valley consists of peat, clay, carbonaceous clay (Kalimati), sand and gravel; all are more or less unconsolidated. These sediments lie unconformably on the Paleozoic Kathmandu group, partly on granite.

Methane occurrence has been primarily in the Facies II group and some in Facies III.

Organic material was and is deposited in each of the three facies groups, but has concentrated in the fine grained unit of Facies II and / or III.

\* Divisional Geologist, Department of Mines and Geology

\*\* Divisional Mining Engineer, Department of Mines and Geology



## Reservoir Gas Storage and Generation

Methane gas is generated from organic material by methanogenic bacteria in an oxygen deficient (anaerobic) environment. This process has been observed worldwide in various organic deposits such as swamps, peatlands and landfills.

Similarly, the presence of free methane gas is seen in the Kathmandu methane reservoir by shallow well 'blowouts' and flow to surface during drilling DMG well. JICA (1980) cited numerous shallow 'blowout' generally in small diameter driven wells. This flow must be from the fine grained unit since hand driven wells are rarely over 100 m. in depth and occur within the area distribution of facies second and third.

Methane generated in Kathmandu methane reservoir is dissolved in water, hence it must be in chemical equilibrium based on reservoir temperature and pressure. Reservoir temperature in the fine grained unit is about 24°C (75°F) resulting in a maximum solubility of 4 SCF (CH<sub>4</sub>) / bbl (H<sub>2</sub>O) (0.7 m<sup>3</sup> (CH<sub>4</sub>)/m<sup>3</sup> (H<sub>2</sub>O)). Since the reservoir concentrated in the fine grained unit is generally from 25-300 m in depth, reservoir pressures are about 35-425 psi. Reservoir porosity would be used to calculate total reserves but since the water must be produced the porosity-compressibility-thickness product (storage coefficient) would be used for calculating the recoverable reserves. As long as organic matter, methanogenic bacteria and an anaerobic environment are present, methane will be generated in the Kathmandu methane reservoir. This generated component is the long term reserves of the reservoir and determine the production duration of the reservoir.

### Total gas reserve of 26 sq. km. area of the whole gas prospective area of Kathmandu Valley

Estimated Gas Reserve of whole gas productive

area :-

Total gas prospective area	=	26 sq. km.
Reservoir thickness	=	65 m.
Porosity	=	35 %
Gas / Water ratio	=	0.4

Total estimated reserve of whole prospective area  
 $= 26000000 \times 85 \times 0.35 \times 0.4 = 300$  million cu. m.

Total no. of wells	=	11
Total drilled depth	=	3939. 22 m.

### Proved gas reserve of block A ( 4 sq. km.) (Teku-Tripureswore area)

Total gas prospective area	=	4 sq. km.
Reservoir thickness	=	85 m.
Porosity	=	35%
Gas / Water ratio	=	0.4

Total estimated reserve of block a =  
 $4000000 \times 85 \times 0.35 \times 0.4 = 47.6$  million cu. m.

Total no. of wells = 7

### Proved Gas Reserve of block B (14 sq. km.) (Koteshwar Tinkune area)

Total gas prospective area	=	14 sq. km.
Reservoir thickness	=	85 m.
Porosity	=	35 %

Total estimated reserve of block B =  
 $14000000 \times 85 \times 0.35 \times 0.4 = 170$  million cu. m.

Total no. of wells = 7

### Block C (Manohara, Emadole area)

Drilling of three gas wells have been planned in this fiscal year.

## Summary and Conclusion

- The Kathmandu methane reservoir is contained in the unconsolidated sedimentary deposits of the valley containing organic material. The methane is formed by conversion from organic material by

anaerobic bacteria. The reservoir reserves have an initial free gas component, a methane dissolved in water component, and a long duration generated methane component.

The natural gas is mostly confined within the fine grained sand unit dissolved in the reservoir which are commonly above 300 m. depth.

Methane production has a value of 1 to 2 cu. m per day per meter of thickness. If 100 m and 200 m are assumed for reservoir thickness in the fine grained unit the potential gas reserve ranges from 100 to 200 cu. m per day.

The methane production of DMG wells range from 50 cu. m per day to 161 cu. m per day.

Methane content ranges from 60 to 76 to 78%, CO<sub>2</sub> from 9 to 17%, and H<sub>2</sub>S from 0.5ppm to 1 ppm. Calorific value of gas ranges from 6485 to 7248 kcal/n cu. m.

A model gas plant of 500 cu. m capacity installed at Pachali, Teku has been operating since last 12 years. Well no. 1, 2 and 3 is

connected to gas holder at Pachali and is supplied to different government offices as follows.

1. Teku Hospital
2. Veterinary Hospital
3. Department of Cottage Industry
4. Army Barrack
5. Central Telegraph Office

Total consumption of gas is approximately 200cu.m. / day.

For domestic use the average family or house hold consume about 0.75 cu. m. / day (270 cu. m. of gas per year). If so, then our market calculates to be about 174074 families (block A).

Based on above consumption data the capacity of present gas holder can be raised as per demands.

About 170 million cubic meter of gas deposit is proved in 14 sq. km area of Sankhamul-Tinkune area (Block B).

*Best Wishes and  
Hearty Felicitations  
on  
the Auspicious Occasion  
of  
43rd National Democracy Day*

**UDAYAPUR CEMENT INDUSTRIES  
LIMITED**

Head Office  
Jaljala, Udayapur, Nepal  
Phone : (035) 20300

Supply Management Depot.  
Dillbazar, Kathmandu, Nepal  
Phone : 416341

*Always use the Udayapur Cement's Product  
"Gaında Chhap Cement"  
For Quality and Strength.*

## New Members of NGS during 1992

Membership	Name	Mailing Address
1. LM-25	Damayanti Gurung	Department of Geology, Tri-Chandra Campus, Kathmandu, Nepal
2. LM-253	Mugnier Jean Louis	Institute Dolomieu 15 Rue, Maurice Gignoux 38031, Grenoble Cedex, France
3. M - 254	Ron Stoufer	United Mission to Nepal P.O. Box 176, Kathmandu, Nepal, Tel. 20497, Pokhara
4. LM - 255	Klaus Meier	CSD Consulting Engineer and Geologist Honsum Str. 20, CH- 3007 Bern, Switzerland
5. M - 256	Dinesh Pathak	Department of Geology, Tri-Chandra Campus, Kathmandu, Nepal
6. LM - 257	Jack Mierzejewski	244 west 8th Avenue Vancouver, B. C., Canada, Tel. (604) 879-9266
7. LM - 258	Donald O. West	919 Hillcroft circle, Oakland, California 94610 USA
8. LM - 259	Jean - Yves Beninger	66, Chemin de la Colline 83190 oliouces
9. LM - 260	Lila Nath Tripathi	Chha 3-171 Chhetrapati, Kushlecha, Kathmandu, Nepal
10. LM - 261	Lothar Steiner	Wiesen Str. 8, 3008 Burgwedel 1. Germany
11. LM - 262	Biswa Ranjan Singh Shahi	Dillibazar Kha-1-294 P. O. Box - 4316 Kathmandu, Nepal
12. LM - 263	Lila Nath Rimal	Department of Mines and Geology Lainchaur, Kathmandu, Nepal
13. LM - 264	Richard Deane Sharpe	Beca Carter Hollings & Ferner Ltd. P. O. Box 3942, Wellington, New Zealand
14. M - 265	Ganesh Prasad Dhakal	Siluwa Romandi Palpa Ward No. 1.
15. M - 266	Sagar Kumar Rai	Irrigation Department Shallow Ground Water aquifer Project ISSP sector, Panipokhari Kathmandu, Nepal, Tel. 411912.



- |              |                           |  |
|--------------|---------------------------|--|
| 16. M - 267  | Dharma Raj Adhikari       | Pancheshwor M. Project<br>Exhibition Road, Kathmandu, Nepal<br>Tel. 227539.  |
| 17. M - 268  | Prakash Das Ulak          | Department of Geology<br>Tri-Chandra Campus, Kathmandu,<br>Nepal.  |
| 18. LM - 209 | Raynor Shaw               | Hongkong Geological Survey,<br>11/F civil Engineering Building<br>101 Princess Margaret Road.<br>Homantin Kowloon, Hongkong<br>Tel. 762-5384 |
| 19. M - 270  | Akal Bahadur Singh        | Chha 2/144, Panipokhari<br>Kathmandu Nepal, Tel. 412298  |
| 20. M - 271  | Ananta Prasad Gajurel     | Kathmandu Municipality, Ward 35<br>Koteshwor, Tinkune, Subidha Nagar,<br>Kathmandu, Nepal  |
| 21. M - 272  | Durga Prasad Osti         | Second Road Improvement Project<br>Rapti and Sagarmatha<br>Thapathali, Kathmandu, Nepal  |
| 22. M - 273  | Ram Kumar Khanal          | Police Head Quarters, Kathmandu,<br>Nepal, Tel. 411210   |
| 23. M - 274  | Hem Nath Ghimire          | Department of Mines Geology<br>Lainchaur, Kathmandu, Nepal.  |
| 24. LM - 275 | Jorg Hanisch              | Federal Institute for Geosciences and<br>Natural Resources (BGR)<br>D-3000 Hannover 51, Germany.   |
| 25. M - 276  | Andrea Filyo              | 1207 Arden Road<br>Pasadena, CA 91106, USA<br>Tel (818) 4498012.   |
| 26. M. - 277 | Johannes Thomas Weidinger | Traunsteinstr, 335<br>4810 - Gmunden, Austria  |
| 27. LM - 278 | Michael J. Leith          | 7611 - 67th Av, N. Av N.W.<br>Calgary, Alberta Canada<br>Tel. (403) - 2883546  |
| 28. LM - 279 | Kazuo Kimura              | 3-17-10 Kaigamori, Sendai,<br>Tel: 022-2797487, Japan  |

- |              |                            |  |
|--------------|----------------------------|--|
| 29. LM - 280 | Mosahiko Konomatsu         | Department of Geosciences,<br>Faculty of Science,<br>Osaka City University<br>Sugimoto, Sumiyoshi - Ku, Osaka<br>558 Japan, TEL. (06) 605-2590, Osaka. |
| 30. LM - 281 | Satoshi Tanaka             | Graduate School of Science and<br>Technology, Nigita University<br>8050, Ikarashi 2 - Nochi, Niyata, Japan.<br>Tel. (025) 262 - 7389                   |
| 31. LM - 282 | Yamasaki                   | -  |
| 32. LM - 283 | Kristwe Eva Charlotte Asch | Geological Survey of Lower Saxony<br>Stilleweg 512, 3000 Hannover<br>Germany, Tel. 0049 / 511 / 643 - 2506   |
| 33. LM - 284 | Roger Bilham               | Department of Geology Sciences<br>University of Colorado.<br>Boulder Co. 80309 - 0216 USA<br>Tel. 3034926189   |
| 34. M - 285  | Sandip Shah                | Shah Consult International<br>G. P. O. Box No. 3840,<br>Kathmandu, Nepal, Tel. 471852  |

## Associate Members

- |            |                       |   |
|------------|-----------------------|---|
| 1. AM - 41 | Guru Prasad Adhikari  | Bihadi, Barrachour<br>V. D. C. - 6 Parbat, Nepal                            |
| 2. AM - 42 | Hira Lal Moktan       | Shantipur - 5, Dhanusha,<br>Janakpur, Nepal                                 |
| 3. AM - 43 | Shanti Bir Maharhan   | Ward No. 9, Bhole Dhoka<br>Patan, Nepal, Tel. 5-25143                       |
| 4. AM - 44 | Rajeeb Gautam         | Kha-2-87, Kathmandu - 4<br>Ward No. 13, Tahachal<br>Bafal, Kathmandu, Nepal |
| 5. AM - 45 | Narayan Gopal Ghimire | Pragati Shiksha Sadan<br>Ma-vi-Kopundol, Lalitpur, Nepal<br>Tel. 522229.    |
| 6. AM - 46 | Ajab Singh Mahera     | Mahakali Zone, Kanchanpur Dist.,<br>Nepal.                                  |

7. AM - 47	Ram Hari Sharma Wagle	Kathmandu Nagarpalika, Ward No 10, New Baneshwor Kathmandu, Nepal.
8. AM - 48	Tika Ram Poudel	Gaidakot - 8, Vijayanagar, Nawal Parasi Nepal.

## Participation in Seminar/Conference/Workshop

The following members of NGS have participated in Seminar/Conference/Workshop during the period of February, 1992 to January, 1993

Topic	Participants	Duration / Country
First South Asia Geological Congress	Singh, S.P. Kaphle, K.P. Bashyal, R.P. Shrestha, J.N. Amatya, K.M. Jnawali, B.M. Maskey, N.D. Gautam, P. Joshi, P.R.	23-27 February, 1992, Islamabad, Pakistan.
Mineral Database Computer System	Shrestha, J. N.	July 25 - August, 1992, Srilanka.
Orind Magnesite of Nepal	Singh, S. P.	August 23-31, 1992, Canada.
Industrial Mineral Development / IGC	Pant, T. R.	August 27-Sept. 3, 1992, Japan.
CGG Meeting on Seismic Data Processing	Tater, J. M. Shakya, T. R.	Sept. 26 - Oct. 10, 1992, France.
Petroleum Management	Karki, R. K.	September, 1992, Canada.
Seminar on Geological Hazards and Environmental Problems in Nepal	Koirala, A. Krauter, E. Pandey, M. R. Shakya, U. Sharma, C. K. Sharpe, R. Shrestha, B. D.	October 14, 1992, Nepal
Petroleum Policy and Management	Kayastha, N. B.	October, 1992, Norway.
Management of Petroleum Operation	Pradhan, U. M. S.	October, 1992, Norway
International Symposium on Snow	Dixit, A. M.	

## Completion of Master/Diploma/Training Programmes

Nepal Geological Society extends its Hearty Congratulations to the following members who have recently Completed their Masters / Diploma / Training courses in various Countries and wishes the success in their professional career.

Topic	Participants	Duration / Country
M. Sc. in Applied Geomorphology	P. K. Mool	Sept, 1991 - July, 1992 The Netherlands
M. Sc. in Engineering Geology	Koirala, A	Sept, 1991 - July, 1992 The Netherlands
GIS Computer Training	Aryal, B. R.	June 1-30, 1992, ICIMOD / Nepal
Diploma in Gemology	Shakya, R. R.	Germany.
GIS Computer Training	Kaphle K.P. Amatya, K. M. Duwadi, A.K. Poudel, K. Pradhan, P. M. Rimal, L. N. Shakya, R. R. Shrestha, O. M. Tamrakar, S. M.	July 20 - August 12, 1992 ICIMOD / Nepal



M. Sc. in Environmental Science  
Training on Interpretation of  
Organic Geochemical Data

Shrestha, S. D.  
Jha, S. N.  
Jnawali, B. M.  
Kaphle, K. P.  
KC, S. B.  
Maharjan, S. R.  
Pradhananga, U. B.  
Pradhan, U. M. S.  
Rahman, H.  
Shakya, T. R.  
Sharma, S. R.  
Karki K.  
Shrestha V.B.  
Shrestha J.N.  
Shrestha, R. B.  
Subedi, D. N.  
Tamrakar, S. M.  
Tuladhar, G. B.

August, 1992, Japan  
November 11- 15, 1992  
Nepal.

P. G. Diploma in Earthquake  
Engineering

Karmacharya, S. L.

Jan-December, 1992, Japan.

GIS Computer Training

Karki, K.  
Shrestha, V. B.

Jan 4- 29, 1993, ICIMOD/  
Nepal.

## Best Wishes

The following members of NGS are undertaking the following Course of Study / Research this fiscal year 1992 / 1993. The Society wishes them success in their respective field of study / research.

NAME	COURSE	COUNTRY
Bhattarai, T. N.	M. Sc. in Engineering Geology	The Netherlands
Dongol, G. M. S.	Ph. D. in Geology	Australia
Madhikarmi, D. P.	M. Sc in Quaternary Geology	Belgium
Mahato, S. P.	Diploma in Petroleum Exploration	Norway
Pradhan, U. M.	M. Sc in Engineering Geology	Thailand
Shrestha, R. M.	M. Sc in Quaternary Geology	Belgium
Shrestha, S. D.	Ph. D. in Environmental Science	Japan
Vaidya, B. G.	M. Sc in Engineering Geology	Thailand
Rai S.K.	Ph. D in Geology	France

## Congratulations

- (a) On Completion of Ph. D. to Mr. Prakash Chandra Adhikary, for defending his Ph. D. dissertation on "Exploration of Paleoclimatic rhythms in Nepalese Himalayan intramontane valleys and their relationship to global changes" in Free University of Brussels - V. V. B. Belgium, on September, 1992.
- (b) On appointment by the elected democratic Government of Nepal:

To Dr. Chandra Kanta Sharma, member of the Society as the Academician of the Royal Nepal Academy of Science and Technology (RONAST) on August 11, 1992.

To Mr. Padma Lal Shrestha, member of the Society on being appointed the Director General of the Department of Mines and Geology, HMG Nepal on November 6, 1992.

To Mr. Yadav Lal Vaidya, Member of the Society, on being appointed the Director General of the Department of Irrigation, HMG Nepal on November 6, 1992.

To Dr. Ramesh Prasad Basyal, member of the society, on being appointed the Project Chief of the Petroleum Exploration Promotion Project on November 6, 1992.

## Retirements

The following members of the NGS have retired from His Majesty's Government service on November 1992.

- |                     |                   |
|---------------------|-------------------|
| • Bhaila, K. B.     | • Shrestha, S. B. |
| • Chaturbedi, G. P. | • Shrestha, S. M. |
| • Jha, J.           | • Singh, S. P.    |
| • Maskey, N. D.     | • Tater, J. M.    |
| • Sharma, C. K.     | • Yadav, R. N.    |

*Best Wishes  
and  
Hearty Felicitations  
on the Auspicious Occasion  
of  
43rd Anniversary  
of  
National Democracy Day*

**SUB STRUCTURAL CONSULT (P.) LTD.**

P. O. Box 3519, KATHMANDU

TEL: 220578

***Provides Services in***

**Geotechnical Sector**

- \* Exploratory Drilling
- \* Soil & Material Testing

**Civil Engineering Sector**

- \* Roads
- \* Irrigation
- \* Hydropower
- \* Water Supply & Sewerage.

# Udaypur Cement Industry Limited - A Brief Introduction

## 1. Background :

In this modern age, cement is one of the most important basic construction material for the society, and it has a wide and desperate use in the world. In our country, the infrastructure and construction fields such as: buildings, roads, bridges, canals and hydro-powers etc. are on increasing trend day by day. So the consumption pattern of the cement are also highly on growing trend.

Himal Cement Company was established in 2032/33 with a capacity of 160 TPD and recently was extended up to 400 TPD. Similarly, Hetauda Cement Factory of 750 TDP was also established in 2042/43. Presently, there are some small scale cement industries with a capacity 30 to 50 TPD, which are also in operation.

To fulfil the growing market potentiality of the cement in the country, a large scale Udaypur Cement Industry was incorporated under the company's Act with the Collaboration of Japan and Nepal in 2044. This industry can fulfil the 45% of national demand and can save foreign currency.

## 2. Location and Accessibility:

Udayapur Cement Industry envisaged a mine at Sindali to exploit limestone by open pit method and the plant at Jaljale to produce cement.

The mine is located at Sindali in the Udayapur District of Jalpa Chilaune Village Development Committee in Sagarmatha Zone, about 22 Km. North of cement factory. The plant is situated at Jaljale of the Udayapur District of Sagarmatha Zone at about 21 Km. North of Kadamaha, which lies 5 Km. East of Lahan on the Mahendra Highway and 360 Km. Southeast of Kathmandu.

## 3. Production Capacity & Financial Resources :

The area occupied by the company is about 800 hectre. The production capacity of the plant is 840 TPD or 277,200 TPA. The financial resources are  $1877 \times 10^7$  Yen from Japan OICF and  $30 \times 10^7$  NC from HMG Nepal. The direct employment capacity is about 500 persons.

### Consumption pattern :

The annual consumption pattern of raw material and utilities are given below :

#### (A) Raw material :

Limestone	-	3,30,000 MT
Red clay	-	57,000 - 82,500 MT
Sand	-	21,000 MT
Iron Ore	-	4,000 MT
Gypsum	-	10,500 MT

#### (B) Utilities :

##### Energy

Coal	-	50,000 MT
Furnace Oil	-	2,000 KL
Electricity	-	10,000 Kwt.
Water	-	1,500 M <sup>3</sup> PD
Jute Sacks	-	55 Lakhs Unit

## 4. Quantity :

The quality of common portland cement is based on German standard Din-1164 P.Z. 35 F ; which is competitive with foreign cement. The main test data of the cement produced by the company are as follows :

Compressive strength (2 days) - 16 to 18 NPSMM



Compressive strength (28 days) - 45 to 50 NPSMM

## 5. Production Process :

The mined ore (i.e. Limestone) is being crushed into the size 100mm in the primary crusher, located at the mine site and then transported to the plant site by a bio-cable 13 Km long rope way. The 100 mm sized material is again crushed into 25 mm size in the secondary crusher at the plant site and then passed through the pre-blending unit to make homogeneous mixture. The collected material is passed through the limestone hopper by the belt conveyor. Together with this hopper, there are three hoppers, containing iron ore, sand and red clay. After mining these four materials in a definite proportion, it is passed to the mill for grinding by a conveyor. In this way, the grind mixture of the raw material is passed through the hopper to bring homogeneity by a high speed air pressure, and then further passed to rotary kiln through pre-heater tower. The functions of this tower is to give primary heat to the raw material. After

this, the material is again heated upto 1400°C to make clinker. Thus formed hot clinker is cooled by a great cooler system at about 100°C and then the cooled clinker is passed to the clinker collection site by a conveyor. After mixing this clinker and gypsum in a fixed proportion it is passed into the cement mill for grinding. Thus, the grinded mixture of clinker and gypsum is called cement. The produced cement is bagged in the packing unit and despatched for sale.

The special features of the plant is accompanied by the installation of modern monitoring instruments based on programme Logic Control System.

With due consideration of the control and monitoring of the Environment in the vicinity of the industry area, a separate well managed waste disposal area has been selected. To control dust emission produced by the plant, the ESP (Electro Static Precipitator), and bag fillers have been installed. Plantation is the priority on the company premises.

*Best Wishes and Hearty Felicitations  
on the Auspicious Occasion of  
43rd Anniversary of National Democracy Day*

**Soil, Rock & Concrete Laboratory**  
**Nepal Electricity Authority**  
Swayambhu, Kathmandu. Tel. 271351

**We are specialized in :**  
**All Kinds of Geotechnical Works.**

# Information on "International Seminar on Hydrology with Special Colloquium on Environmental Problems and Water Resources of Himalayan Region"

"International Seminar on Hydrology with Special Colloquium on Environmental Problems and Water Resources of Himalayan Region is to be organised by Nepal Geological Society (NGS) Jointly with Association of Hydrologists of India (AHI) on April 19-21, 1993 in Kathmandu.

All NGS members should be aware that the above Seminar is scheduled to be held in Kathmandu from April 19-21, 1993. To settle some important matters regarding this seminar, a series of meetings with Prof V.V.J. Sarma, Secretary/Treasurer, AHI was held. A wrap up note of this series of meetings prepared by Dr. Ramesh M. Tuladhar, Chairman, Seminar Organizing Committee, Nepal Chapter, and additional information based on new developments are enumerated below :

## **Wrap-up Meeting with Prof. Sarma**

Prof. V. V. J. Sarma arrived Kathmandu on 15 Dec. 1992 at the invitation of the NGS President Mr. Amod M. Dixit to discuss important matters regarding the "International Seminar on Hydrology with Special colloquium on Environmental Problems and Water Resources of the Himalayan Region". Following Meetings were arranged by the Seminar Organising National Committee (SONC) - Nepal Chapter during his stay ( 15-18, December 1992) in Kathmandu.

- I. Joint Meeting between NGS Executive plus Group Co-ordinator's of SONC with Prof.

Sarma.

- A. First Day : 16 Dec., 1992  
Time : 11:00 - 2:00 P. M.  
Place : Conference Room of PEPP, DMG, Lainchour
- B. Second Day : 17 Dec., 1992  
Time : 4:30 - 8:30 P. M.  
Place : Dept. of Geology, Tri-Chandra Campus, Ghantaghar
- II. Meeting between members of SONC with Prof. Sarma.
  - A. Third Day : 18 Dec., 1992  
Time : 3:00 - 6:00 P. M.  
Place : Dept. of Geology, Tri-Chandra Campus, Ghantaghar

Essentials of these meetings are enumerated below :

- I. First day of the meeting was devoted largely on briefings of the development at both ends i. e. NGS and AHI regarding the above said seminar Dr. Tuladhar and Prof. Sarma respectively which is as follows:
  - AHI did correspondence with over 100 sponsoring agencies within India and abroad.

- AGID promised of \$ 1000.00 for publication and is likely to transfer this amount in the Bank Account already opened by Prof. Sarma for this seminar.
  - 50,000.00 I Rs. is expected from Government of India.
  - Prof. Sarma handed over I Rs. 1700.00 to Mr. Dixit collected so far from various participants as against Accomodation Fee (list accompanied) .
  - List of participants who already paid Registration Fee (15) and who already paid Excursion Fee (3) delivered to Dr. Tuladhar.
  - NGS too did several requests to various national and foreign donor agencies.
  - Lahameyer International assured of \$ 1500.00
  - It is expected to receive worth \$500.00 - 1000.00 from National and/or Foreign agencies working in Nepal.
  - However, there is no money except for the words as yet.
- II. Second and Third day were focussed on Seminar Programme, Venue, Excursion, Publication and other relevant matters; a through discussion was held before arriving at any conclusions.
- Seminar Layout consisting of eight sessions presented by Prof. Sarma was accepted in principal but will be finalised after knowing the numbers of actual participants and concluding session was added which will review the findings and its implications.
  - AHI Annual Convention Meeting will be considered as separate entity which will be held only after completion of the seminar.
  - CEDA Hall of Tribhuvan University will be the Seminar Venue and two parallel session will be conducted at one time.
  - For inauguration City Hall, Hotel Blue Star or Hall of College of Education, T.U. are the options and final decision will be made at that time only.
  - Excursion Venue will be Sun Koshi Dam Site.
  - Publication of Abstract/Souvenir Volume will be printed in Kathmandu while Seminar's Proceeding will be published in India.
  - Both NGS and AHI will have separate Organizing Committees and Prof. Sarma and Mr. Dixit will be the convenors of this seminar.
  - Prof. Sarma and Mr. Dixit will operate the seminar accounts at their respective ends.
  - Special Cultural Programme will not be arranged but relevant information will be provided.
  - Similarly, Travel arrangements will not be made except for the excursion and dialy pick-up to reach seminar place from down-town but necessary information will be provided.
  - Complimentary Seminar bags reflecting Nepalese culture will be provided.
- Seminar Venue :**
- CEDA Hall, Tribhuvan University, Kirtipur, Kathmandu.

## Programme Outline

	Morning 9.00-13.00	Afternoon 14.00-17.30
18/4/93	Registration	Registration
19/4/93	Inauguration & I <sup>st</sup> session	II and III Session (Parallel Session)
20/4/93	IV & V Session (Parallel Session)	VI & VII Session (Parallel Session)
21/4/93	VIII Session & Colloquim	Colloquium, Concluding Session
22/4/93	Scientific excursion to areas of hydrological importance.	

### Technical Session :

Technical Sessions of this seminar comprises various aspects of hydrology, precipitation, runoff, geo-hydrochemistry, hydrology, remote sensing, geophysics, hydrometeorology, nuclear hydrology and the colloquium (deals with the atmospheric phenomena over the Himalayas, sedimentation problems, groundwater, tectonic activity in its relationship to groundwater).

### Scientific Papers :

More than 100 research papers are received for presentation at the International Seminar. They are divided into special papers, keynote papers and paper presentations. The special lectures are delivered by experts invited from various parts of the globe on thrust areas like the latest thinking on weather phenomena over the sub-continent,

hydro-chemistry as an effective tool in identifying areas of pollution, micro-seismic and gravity observation to study faults and stress accumulating areas and their effect on movement of groundwater. Special papers are being presented between 4:00-4:30 pm every evening to enable all people from the offices also to participate.

### Transportation:

Bus arrangement will be there. Detail Bus schedule will be notified at the time of registration.

### Circular:

Third or Final Circular is already released and will be distributed very soon.



*Best Wishes and Hearty  
Felicitations  
on the Auspicious Occasion  
of  
43rd Anniversary of National  
Democracy Day*

**COMPUTER AIDED DESIGN  
SERVICE CENTER**

5/636 OMBahal,  
KATHMANDU, NEPAL  
TELEPHONE : 224652

**OUR SERVICES**

- \* *Computer Aided Design*
- \* *Computer Type Setting*
- \* *Quality Laser Print Out*

*Best Wishes and Hearty  
Felicitations  
on the Auspicious Occasion  
of  
43rd Anniversary of  
National Democracy Day*

**GEOCE CONSULTANTS (P) LTD**

*Consulting Engineer*

*P. O. Box 4266, Kathmandu, Nepal*

*Tel. 415144, 415397*

***Scope of Services :***

- Project Preparation
- Surveys & Investigations
- Design
- Implementation

***Spheres of Operations :***

- Engineering
- Agriculture
- Forestry
- Socio-Economy
- Rural Development

*Best Wishes and  
Hearty Felicitations  
on the Auspicious Occasion  
of  
43rd Anniversary  
of  
National Democracy Day*

**HIMAL CEMENT COMPANY (PVT.) LIMITED**

CHOVAR, KATHMANDU  
NEPAL

*Best Wishes and Hearty Felicitations On  
The Auspicious Occasion Of 43rd National  
Democracy Day*

**EAST SOIL LAB (P) LTD.**

P. O. BOX 1192, BASUNDHARA RING ROAD, KATHMANDU, NEPAL.

PHONE :- 4-12367, 4-17895, 4-12062, 4-19905.

TELEX 2276 HOSANG NP, FAX NO. 977-1-417895

*Takes pleasure to bring to the notice that EAST SOIL LAB (P) LTD., has entered into  
the 2nd years of engineering services of different nature.*

**Specialized to provide Testing Facilities in :**

*Soil, Aggregate, Cement, Concrete, Brick, Bitumen, Water, Reinforcement*

**Range of Services Cover :**

*Geo - technical Investigation, Agro-Socio-Economical Study, Environmental  
planning, Civil Engineering study and design.*

*Best Wishes and Hearty Felicitations  
on the Auspicious Occasion of  
43rd Anniversary of National  
Democracy Day*

**NEPAL ORIND MAGNESITE (P.) LTD.**

(A Joint Venture Company of HMG of Nepal & Orind Group of Companies)

Cha 2/776, Lazimpat, G. P. O. Box 1242, Kathmandu

Telephone : 415328, Telex : 2293 NEPMAG NP

Gram : MAGNESITE, Kathmandu

*Dedicated to harnessing the mineral wealth for contribution to overall economic development of the country*



*Best Wishes and Hearty  
Felicitations  
On  
The Auspicious Occasion  
Of  
The 43rd National  
Democracy Day*

**GANESH HIMAL LEAD ZINC PROJECT**

**NEPAL METAL CO. LTD.**

Babar Mahal, P. O. Box 468, Kathmandu, Nepal,

Tel. 226941, 226223, FAX : 977-1-222807

1151



**Best Wishes and Hearty  
Felicitations  
on the Auspicious Occasion of 43rd  
Anniversary of National  
Democracy Day**

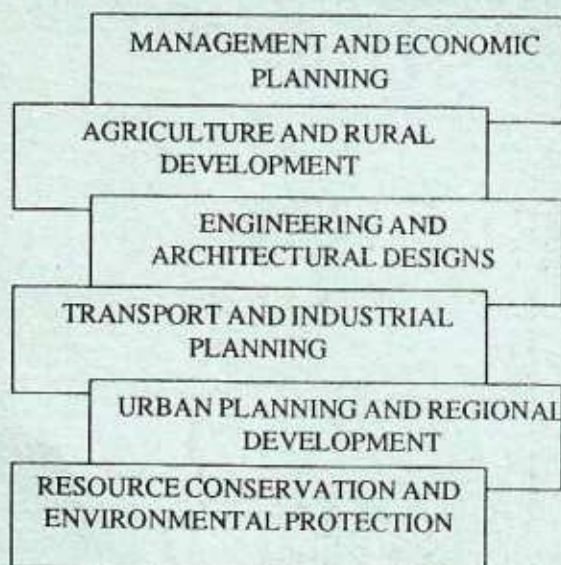
## METCON CONSULTANTS

P. O. Box 4412  
Cha 2 / 655, Tangal  
Kathmandu-2, Nepal

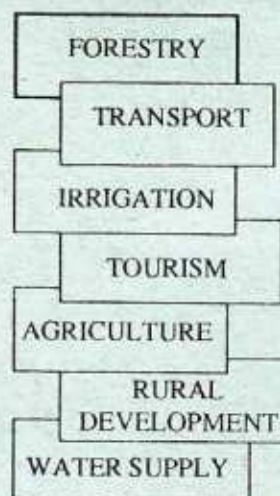
Telephone : (01) 412902/ (01) 414536  
Telefax : (01) 418478  
Telex : 2495 METCON NP

*METCON Consultants (Management, Engineering and Technology Consulting) a multidisciplinary consulting firm was established and registered in 1981 with a view to providing its best consultancy services for plan formulation and policy studies; pre-investment studies, design and supervision services for construction works; specialized design and development services; project management; advisory services; evaluation studies and monitoring works in different socio-economic, managerial and technical fields.*

### Field of Activities:



### Experiences:



Published by : NEPAL GEOLOGICAL SOCIETY.

Laser Print Out by : COMPUTER AIDED DESIGN SERVICE CENTER

Printed at : SIGMA OFFSET PRESS



**BEST WISHES  
AND  
HEARTY FELICITATIONS  
ON  
THE 43RD ANNIVERSARY  
OF  
NATIONAL DEMOCRACY DAY**

**GODAVARI MARBLE INDUSTRIES (P.) LTD.**  
BAGBAZAR, KATHMANDU

**P. O. Box : 489**

**Phone : Office - 225043, 222649  
Factory - 290565**

**Cable : GODMARBLE  
Tlx : 251 EMCEE**